CHICAGO USERS GROUP

PRESENTS

CHICAGO TIMES

NEWSLETTER OF THE CHICAGO TI-99/4A USERS GROUP

SUPER SUMMER ISSUE

AUGUST 30, 1986

EDITOR: Carole Goldstein

THE SEPT MEETING....

will be held on Saturday Sept 6, 1986 from 1:00 to 3:00 in the Fireside Lounge a Triton College. The meeting will feature a demonstration of the RLE graphics program and more.

Something for everyone who didn't buy their TI-99/4A so they could wait, and wait , and wait...

PRE-SCAN IT!

Announcing a program for all those people that want fast performance from their Extended BASIC programs - and who doesn't?

What is Pre-Scan It!? Only the most remarkable utility for Extended BASIC users and programmers since the program compactor. Pre-Scan It!, simply enough, rewrites your TI, Myarc, Mechatronics, or Miller's Graphics modified Extended BASIC programs so that they not only execute fast, but nearly instantly!

At last! Now you will never again have to wait through those coffee break long pauses at the beginning of your favorite Extended BASIC programs. Finally, you can now write an Extended BASIC program any way you like, and then run it through Pre-Scan It! to get a program that starts up as fast as all those assembly and Forth programs!

If Pre-Scan It! only did this, it would be remarkable, but Asgard Software never stops at the merely remarkable. Pre-Scan It! will also make your program smaller in ways that only it's author J. Peter Hoddie, a master of Extended BASIC, knows. Pre-Scan It! will save bytes as well as time, and to top it off, it is compatible with all current versions of Extended BASIC, and all to come.

And finally, if all this isn't enough, Pre-Scan It! is available for the totally unbeatable price of only $10.00! That's right, a single saw-buck will get this fantastic program delivered right to your door as fast as the U.S. Mail can carry it.

*Pre-Scan It! requires TI Extended BASIC and a disk drive system. A memory expansion unit is also required for some features, but is optional for most. Now available from official Asgard Software dealers, on Compuserve from TeleData*Guide (page TDG-4), and on The Source by writing via Source Mail to TI9720.*

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Asgard Software
P.O. Box 10306
Rockville, MD 20850

To order or for information call 301-345-2492 (8AM - 8PM)

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SPECIAL THANKS TO BUZZ KRANTZ FOR ALL THE ARTWORK IN THIS ISSUE.

FULL DUPLEX

Irwin Goldstein

It's finally here, the SUPER SUMMER ISSUE. This is the Big One, the one we've all been waiting for.

The bulletin board has been incredibly busy this summer. I am surprised at the number of callers each day. It has always been my feelings that the summer is amde to spend outdoors.

Of course, the increase could be due to the fact that there are close to four hundred passworded members of the BBS. I can't think of any other BBS anywhere with that large a following. Due to the growing number of members assigned, it is becoming necessary to make a review of some member's activity on the Board. BBS member numbers are getting scarce and so a policy is going to have to go into effect soon which will state that any BBS member who has not logged on within the past six months will risk losing his BBS membership. My feelings are that if you haven't checked in once withing the past 180 days, then chances are very high that you never will. Let's then give that membership number to someone who will use it.

Our members live in 43 states and 8 different countries all over the world. Due to the "PC Pursuit" phone calls from these distant members are quite frequent.

At this point, I would like to put in a plug for the Group's Store. We have a large selection of T.I. cartridges for sale. These are new, with booklets. The titles are:

Home Financial Decisions
Multiplication I
Hunt The Wumpus
The Attack
A-Maze-Ing
Tombstone City
T I Invaders
Household Budget

These items are for sale for $1.00 each with no limit to the number you may purchase. You may order reserve yours to be picked up at the meeting, by leaving the SYSOP a message telling me what you want and how many. Out of towners can send their orders to the group P.O. and please add $.50 for postage.

Over 90 cartridges were sold at our Users Group picnic on July 27th. The picnic was a lot of fun and we sure had plenty of food for everyone. Approximately sixty people showed up which is only ten percent of our total membership. A larger turnout was expected but the event still went very well.

Back to the BBS. Lately, the main topic of conversation has been a little trivia war between various members of the group as to who can remember

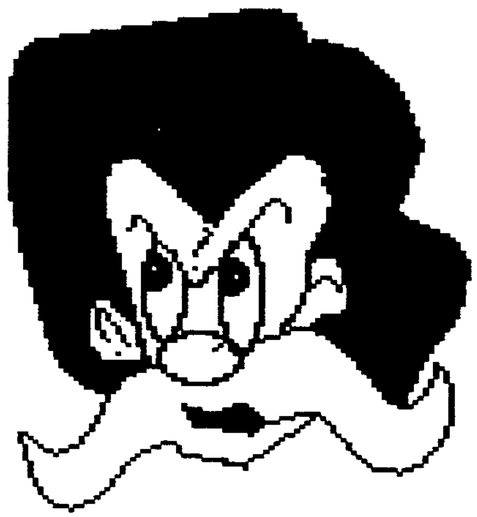
more of the old time TV and radio shows. This has generated quite a lot of interest from other members as witnessed by the number of messages left each day on the sbject. I personally find it quite interesting and if it keeps up may provide a seperate message base section just for trivia messages.

If any of our readers are having any sort of difficulties using the BBS in any way, please request a copy of the Bulletin Board Users Guide. These will be available at the regular meetings or sent out to out-of-towners. In most cases these are free of charge. This guide was written to heop not only the beginning user, butalso ther veteran so they may more effieiently utilize the BBs and thus save "air" time (especially usefull for out-of-town users). Also, use the "CHAT" feature of the BBS or the"w" feature to leave me feedback as to how the BBS is going or what your problems are concerning the board. Personal poblems should be referred to Dave Wakely, user number 75.

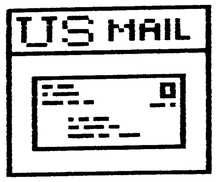
As members of the group, you have a means of participation in most of our activities through the board. No matter how far away you live, you have a strong voice in what our group does, so lets hear from you. Speak up and say what's on our mind. Speaking of which, I had better stop saying what's on my mind or we will run out of room. Ok, we'll see you next month and don't forget to use the BBS often. It is the continuous newsletter of the Chicago II Users Group.

Remember, the number is 312--966-2342, open 24 hours a day, 7 days a week, just like Las Vegas!

THIS SPACE FOR RENT



FULL PAGE 25.00
HALF PAGE 15.00



LETTERS

THE ANONYMOUS COLLECTOR'S

or as T.I. Would say,
"THEM DAMN PIRATES"

I don't know when it all started, but I have my ideas on how it started.
It all started when some BIG-WIG had a brain-storm on how to go up the ladder of success a little faster.
Besides selling computers, we can sell software too. We can make a killing on software.
Well, to make a long story short, it worked! They bought everything and anything they made, at their prices, too.
The problem was, they were watched by other BIG-WIG's in other computer companies.
Well, you can only get so many BIG-WIGS on that GRAVY-TRAIN before it slows down.
So you can guess what happened. Not enough big money for T.eeee. Computer Co. ... So they got out.
But, they did leave something behind. US! Yea,All the DUMMIES who bought it all. ALMOST AS BAD AS HAVING YOUR MOTHER LOCKING YOU OUT WHEN YOU GO TO SCHOOL.

Well luckily we got someplace to go. Like your local USERS GROUP, or that B.B.S. that is always busy, or maybe the LIBRARIAN.

NOW, don't get me wrong. I know, and I'm glad there is still someone who is making programs for my little computer. I don't groan about the price of programs now. I look real good at what I'm buying now. There are some very beautiful programs to get now.

But watch out for that up-and-coming Mr. BIG-WIGS. Mr.BIG-WIGS COST plenty, and they don't always give you the PROVERBIAL POT. So look closely.
Myself, I see some new one's I must buy. Sorry , I won't say.
But I am happy to know about the COLLECTORS. They are getting and saving all the programs they can get.

WHY? Because they will not say UNCLE to Mr. BIG-WIGS. They are NOT going to quit T.I.
.
YES, all the programs that you and I have payed for to T.I. and ETC: are being collected. BY WHO ? WHERE AT ? WHERE CAN I GO TO GET ME SOME, TOO ?
SORRY. I don't know.
But I do know that I am not throwing any of them out. You and I paid for them. Look around ! Find those old program's you put in that desk drawer. They won't do any good there. There are some very good old programs you have.
They might be some collectors items . Even if they are not, someone might like them. You know, KIDS.
Think about it !
Tell someone else about that little trick you found. Send it to your CLUB or USERS GROUP. Put it on a B.B.S. . WRITE IT ON A PAPER AIRPLANE AND THROW IT OUT THE WINDOW. It will find it's way to someone else. And some day someone will show you a real neat trick he found. And it works good, too.

Just don't give a pirate a chance to become Mr. BIG-WIGS....
YES , VIRGINIA, there ARE PIRATES out there.
They're the ones who still think it is better to get money than to give help. I'm sure you can find them. Or, should I say, they will find you. So, if you find a PIRATE, give him your two cents worth.
If you find a COLLECTOR. Ask him for HELP. BUT, don't ask him for that new amazing, does everything program that you want. It's CHEEP now !
And dig deep into that dusty old drawer and find that very old program. You could and probably will need it in the future. You know where it will be. Someone else might find it, too. Some day.

IT MIGHT BE YOUR KID !
or MINE !

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CHICAGO TImes 6-15-86

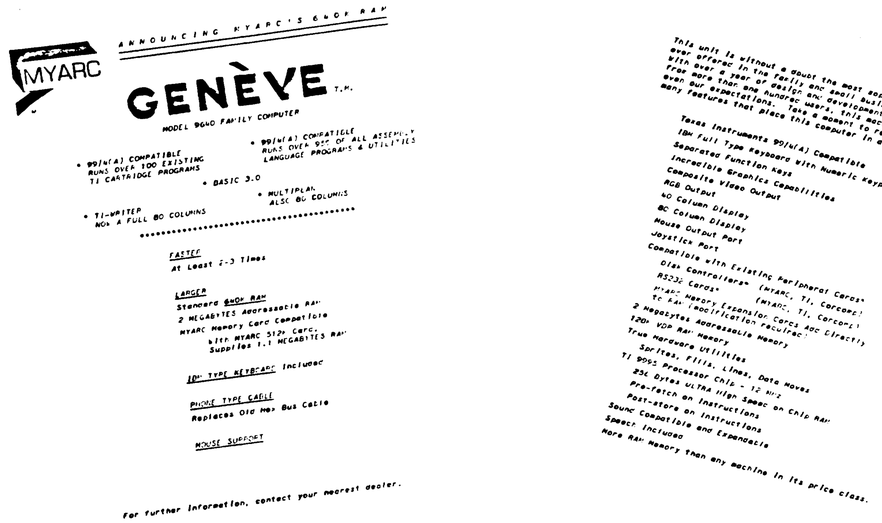
Ref- Last month's issue - page 7 - by Rich Klein in "Basically Yours" answer to Extd Basic access to disk protection byte.

One way to check it is to access the Assembly Language program calles RAW by Bary Traver as published in the 2nd issue of his "DISKAZENE." He has several versions of RAW (Read Write). With a little checking, one can read any sector and byte. Last summer R.M. Mitchel of Bytemaster computer Services published a good version of RAW with Call Loads in his publication SUPER 99 MONTHLY.

Sincerely, hope this helps answer the question of the person O. H. in Brewton, Ala.

Bill Harms
6527 Hayes Ct.
Chino, Cal. 91710

GENÈVE T.M.


MYARC
ANNOUNCING MYARC'S 64OK RAM
GENÈVE T.M.
MODEL 9640 FAMILY COMPUTER
• 99/4(A) COMPATIBLE
RUNS OVER 1000 EXISTING
TI CARTRIDGE PROGRAMS
• BASIC 3.0
• 99/4(A) COMPATIGLE
RUNS OVER 95% OF ALL ASSEMBLY
LANGUAGE PROGRAMS & UTILITIES
• MULTIPLAN
ALSO 80 COLUMNS
• TI-WRITER
NOW A FULL 80 COLUMNS
FASTER
At Least 2-3 Times
LARGER
Standard 640K RAM
2 MEGABYTES Addressable RAM
2 MEGABYTES MYARC Memory Card Compatible
MYARC Memory Card Options:
512K MYARC 512K Card
Supports 1.1 MEGABYTES RAM
101 TYPE KEYBOARD Included
PHONE TYPE CABLE
Replaces Old Hex Bus Cable
MOUSE SUPPORT
This unit is without a doubt the most sophisticated machine ever offered in the realm and small business area to date. With over a year of design and development including more features that place this computer in a class of its own.
Texas Instruments 99/4(A) Compatible
101 Full Type Keyboard with Numeric Keypad
Separated Function Keys
Interchangeable Graphics Capabilities
Composite Video Output
RGB Output
40 Column Display
80 Column Display
Mouse Output Port
Joystick Port
Compatible with Existing Peripheral Cards:
Disk Controllers (MYARC, TI, Corcomp)
RS232 Cards (MYARC, TI, Corcomp)
Myarc Memory Expansion Cards (MYARC, TI, Corcomp)
32 KB Modification required
2 Megabytes Addressable Memory
120+ VDP RAM Memory
True Hardware Utilities
Sprites, Fills, Lines, Data Moves
TI 9995 Processor Only - 12 MHz
256 Bytes ultra High Speed on Chip RAM
Pre-fetch on Instructions
Post-store on Instructions
Sound Compatible and Expandable
Speech Included
More RAM Memory than any machine in its price class.
For further information, contact your nearest dealer.

It's here and it's...GENEVE from Myarc.

It is true! It is here! It works! I saw it! Just as he promised to do, Lou Phillips of Myarc showed up at the Chicago Consumer Electronics Show on Sunday with several working Peripheral Expansion Boxes running his "computer- on-a-card." These were fully functioning printed circuit boards running 80-column and hi-res graphics demos.

I spoke to Mr. Phillips for over an hour at the show, and yet I almost missed him entirely. His small booth was unmarked, and I only spotted it by recognizing him, having seen him at our Chicago II Faire last November. He was even wearing a badge with someone else's name on it, but denied that he was here incognito. The booth was not shared, it was entirely Myarc's. With Phillips behind the table was John Keown, author of Module Emulator, who is now doing extensive work with Myarc.

The new computer is named GENEVE, but will also be known as the "Model

9640 Family Computer". Phillips stated that Texas Instruments asked him not to use "9900" in the name, but he retained the "9" and added the "640" because that is the amount of RAM which comes with the machine. The following is directly from the one-page information sheet which was handed out:

* 99/4(A) compatible, runs over 100 existing TI cartridge programs

* 99/4(A) compatible, runs over 95% of all Assembly language programs utilities

* BASIC 3.0

* TI-WRITER, now a full 80-columns.

* Multiplan, also 80 columns.

FASTER At least 2-3 times

LARGER Standard 640K RAM 2 MEGABYTES Addressable RAM MYARC Memory Card Compatible With Myarc 512K Card, Supplies 1.1 MEGABYTES RAM

IBM TYPE KEYBOARD included

PHONE TYPE CABLE Replaces Old Hex Bus Cable

MOUSE SUPPORT

On the back of the page was a list of more features, including:

Composite Video Output RGB Output (Note: I was informed this is Analog RGB, with "thousands" of colors available) 40 column display 80 column display Mouse Output Port Joystick port 128K VDP RAM memory

Phillips stated that you will no longer need the flex cable or even the TI console. The card plugs into the PE Box, and a cable goes from there to the IBM type keyboard. Your other cards will work as usual. When asked about using cartridge software with a machine which has no such port, Keown stated that a copy of his program, Module Emulator, will be included with each machine, and you will be expected to dump whichever cartridges you want. They will then run from disk on the new machine. The only cartridges they have been unable to use are those which call console BASIC routines, such as Personal Record Keeping, Statistics, Tax/Investment Record Keeping, and a few others. They are not sure whether they will attempt to correct this. Everything else, including the present Extended BASIC, will dump and run on the new machine.

You probably won't need XB anyway, since the machine will come with Myarc's BASIC 3.0, as well as 80 column versions of TI-Writer and Multiplan. Myarc plans at this time to include the keyboard, and the suggested retail for all of the above is $495.00. When asked if they would sell the machine without a keyboard for less, Phillips quickly added that it was likely they would do so.

Availability of the machine is planned for "about mid-July". Phillips stated he has been told to expect completed components from his suppliers "around the end of June". (Sounds like too tight a schedule to me). The initial production run is for "about 1,000 units".

Phillips stated that he considers the hardware, the card itself, "done". Several beta testers already have the card. He is presently working on the native, or boot-up, DOS. Among other things, he is trying to decide whether to use a TI-like directory system, perhaps with a boot-up menu which can call TI emulaton, or presumably something similar to MS-DOS, where TI emulation must be called in by the user from disk. Either way, once in "TI mode" the machine will function as your TI does now, except with all the new "goodies" added.

At this point I asked Mr. Phillips directly if, in essence, there will ever be another mode to use, namely, an IBM compatible system. He very quickly stated that this is one of their goals and that he expects "in about six months to be at the same stage we are now with this card". It was pointed out to him that this will roughly coincide with the 4th Chicago TI Faire, to which he was immediately invited. He has tentatively accepted our offer to present at that show.

There are still plans to produce a stand-alone new computer, but this seemed, at least to me, somewhat vague. Phillips also hinted that Myarc will probably be producing the equivalent of a Peripheral Expansion box of their own, which would also seem to me to remove the need for a self-contained machine.

Back to IBM compatibility, Phillips did state that with a double-density disk controller (such as Myarc's) there is no reason why the new machine could not read IBM (MS-DOS) formatted disks. The problem is that the TI 9995 processor knows not what to do with 8088 instructions, so IBM programs are out until the compatibility card comes along. But I asked if, for example, word processing files and possibly even saved Multiplan files could be used by either system, and, after thinking about it for a second, Phillips stated he couldn't see too many problems with this. This should give us some immediate "productivity compatibility" at least.

In wrapping up, Phillips noted that the quad density chip upgrade which has been talked about at other shows is now ready, and to contact dealers for info. He also stated that the fine hi-res demos which were running at the CES were written by Chris Faherty of Inscebot, and that copies of the demos would be included with Myarc's release of BASIC 2.1 free of charge.

I would like to conclude by noting that there have been those, even on this bulletin board, who have publicly doubted the intentions of Myarc with regards to this machine. After waiting over 2.5 years for a replacement/upgrade machine, perhaps such skepticism is understandable among TI owners. I will say that Lou Phillips comes across as a sincere, straight forward guy. For those who, also quite understandably doubt appearances, I will tell you both that the machine DOES exist, and whatever else he is doing, Lou Phillips just spent one HECK of a lot of money for a table at this CES to show it.

I apologize for any editorializing I may have done in this article, and for anything I may have omitted. I believe I have outlined everything of importance I spoke about with Phillips, but if you have questions I haven't anticipated, by all means contact Myarc, or, as a last resort, SMAIL me.

Incidentally, I inquired about the origin of the name. Keown jumped in and stated that it was his idea. It seems that a few days before the

CES, while they were working together, Keown told Phillips that he felt there should be a name for the new machine instead of just a number, "the 9640". As they were heading down the staircase from Phillips' office there was a framed print on the wall. The name at the bottom was "Geneve", and when Keown suggested this, Phillips agreed to it. Considering the near religious fervor of TI users, this vaguely biblical sounding name seems appropriate.

Happy Computing,

Dave Wakely Chicago TI Users' Group

BASICALLY YOURS

Rich Klein

Here we are once again. Summer has a way of creeping up on you and once you finally realize it's here, it sneaks away. By the time you read this, exactly that could have happened to you. I hope, for your sake, that this isn't the case. Summer is the part of the year from which people get the most enjoyment. I hope you at least managed to attend the first annual TI picnic. I know that I should have made it.

By now, a lot of you may have heard that the new computer is a reality. At the Consumer Electronics Show in Chicago, Myarc was present with a working computer-on-a-card. This computer fits into the P-box and is compatible with the other cards you own. It will also run 99 and 44/100 percent of your programs, whether on module or disk (special program to dump modules to disk included). As you can see, the money you spent to build your present system and all the work you put into it, won't be lost. The only change necessary is to store away your console and flex card/cable. The new computer comes with an IBM style keyboard that plugs into the back of it (the card) along with connectors for composite and RGB video as well as a joystick port.

The card comes with 640K of memory and can address considerably more. Myarc demoed the card with a 512K memory card along side to bring memory up to 1.1MEG (1,179,648 bytes). Who could want more? If you're greedy, you can add more memory as it becomes available.

I think that, since the card has been shown running, then perhaps they will be shipping by their projected end of July date. This could be a shot in the arms of all TI users.

If you've ever wanted to roll through a set of numbers continuously, such as 1 2 3 4 5 6 7 8 1 2 3 4 5 6 7 8...etc., and you hated the logic required, then perhaps the following might be useful to you:

```
100 A=1
110 PRINT A;
120 A=A+1+(A=8)*8
130 GOTO 110
```

Line 120 is the meat of this routine. By letting the computer evaluate

an expresion and using that result within the formula, you can eliminate three lines of programming. Let's see how this works:

100 Sets the variable "A" to one.
110 First line of loop prints each value of "A" so we can see how our formula affects it. The semicolon causes each value to be displayed next to the previous value.
120 Here is where the work is done. If we remember our Algebraic hierarchy, then we know that any expression in parentheses is evaluated first; then multiplication and division and then addition and subtraction. Functions and powers are in there also, but we're not using them here. Let's go through and solve this formula step by step. Let's also give the variable "A" a value of seven:

```
(1)   A=A+1+(A=8)*8        ORIGINAL FORMULA
(2)   A=7+1+(7=8)*8        SAME THING WITH SEVENS PLUGGED IN
(3)   A=7+1+  0  *8        SOLVE EXPRESSION IN PARENTHESES
(4)   A=7+1+   0           SOLVE MULTIPLICATION
(5)   A=8+0                SOLVE ADDITION LEFT TO RIGHT
(6)   A=8                  FINAL VALUE OF EIGHT
```

Let's see how this formula works when A equals eight:

```
(1)   A=A+1+(A=8)*8        ORIGINAL FORMULA
(2)   A=8+1+(8=8)*8        SAME THING WITH SEVENS PLUGGED IN
(3)   A=8+1+ -1  *8        SOLVE EXPRESSION IN PARENTHESES
(4)   A=8+1+   -8          SOLVE MULTIPLICATION
(5)   A=9+(-8)             SOLVE ADDITION LEFT TO RIGHT
(6)   A=1                  FINAL VALUE OF EIGHT
```

You can see that if A equals eight, then the expression, (A=8) yields a value of -1 since the expression is true. It is then multiplied by eight for a value of -8. When this figure is added into the rest of the formula, the value of A is reset to 1.

When A was not equal to 8, then the expression (A=8) yields a zero, which, when multiplied by eight, still equals zero. When this is added to the rest of the formula, the result is the same as if it wasn't there and the value of a goes up by one.

As you can see, the formula is a little misleading. If you try to solve it from left to right, you might get the impression that the variable, A, equals one more than it actually does and that it will be incorrect. If you remember the way expressions are evaluated, and also that the value of a variable is NOT changed until the entire expression is evaluated, then you should have no problem creating expressions of incredible complexity.

130 This line transfers control back to line 110 to create an endless loop. To stop this example, simply press FCTN 4 <CLEAR>.

This is a simple illustration of what you can do with logical expressions. While you were reading the above, I was working on a short routine which, I believe, adequately illustrates the concept of evaluating expressions. Let me explain step by step what is to be accomplished before presenting the routine in its entirety.

What I propose, is to create a counter of sorts, which will count seconds

from zero to fifty nine, detect any carries and count up to fifty nine minutes. I'm not concerned with the accuracy of this "clock", because the way we will construct it is more important. This counter will count units, carry over into tens and count them up to five tens and nine units. From there, it will count units in the minutes column, generate a carry into the tens of minutes column, and count from zero to fifty nine minutes and fifty nine seconds before resetting to zero. Some of you might think that this is simply a series of decision-making statements (IF-THEN-ELSE). If it was, then it would defeat the topic of this column. I intend to accomplish this task without any conditional statements whatsoever. This will be accomplished with a series of mathematical expressions which are arbitrary in their very nature. That is, each statement will be executed in the same sequence each time and will generate a different (or the same) number each time.

The format for the display on the screen will be as follows:

00:00

Each digit will represent the value of different variables. Each digit will be placed on the screen with an HCHAR() statement. Each variable will be the result of one mathematical formula. Let's see how to construct the first formula.

We'll figure our counter from right to left, since units are on the right and greater digit are to the left of that. The first digit (units, seconds) will be called "A". We need to count these units from zero to nine. First, we'll initialize the variable "A" to zero as follows:

```
100 CALL CLEAR
110 A=0
120 B=0
130 C=0
140 D=0
```

It is not actually necessary to initialize variables, but it makes the listing more readable and is generally accepted because some Basics require variables to be initialized before they can be used. TI Basic assumes any variables not initialized to have an initial value of zero. Line 100 clears the screen for neatness.

Now we need to come up with a formula to count from zero to nine and repeat. The formula in the last example is adequate with small changes to allow for counting zero. We still want a maximum value of nine, but we need a range of ten digits (0-9). If we use the following formula:

```
160 A=A+1+(A=9)*10
```

If we bear in mind the previous example, and examine this formula we see that:

1) A is the value we want to adjust.
2) 1 is the basic increment we want to use.
3) (A=9) generates a -1 if true or 0 if false and indicates the maximum value needed for this digit.
4) 10 is the range of digits and when multiplied by our true or false value, adds a 0 or -10 to our expression.

If A=9 then our expression would be 9+1+(-10) or zero. If A was equal to less than nine, then our expression would simply be A+1+0 or A+1. So this expression is O.K.

Next, we must figure out how to count tens of seconds. We must increment this digit once each time the units column resets to zero. We can use the original formula with more changes. Let's Start with the original formula as we used for the variable "A". Instead, we'll use the variable "B":

```
170 B=B+1+(B=5)*6
```

Remember, "B" must cycle between zero and 5, with a range of only six digits. So the expression (B=5) sets up the maximum value before the formula resets and if it's multiplied by six, it will reset to zero.

But we want the variable "B" to be incremented only when A resets back to zero. Obviously, if we increment only under certain conditions, we can only reset under the same circumstances. What is needed is a way to "turn off" the part of the formula that alters the value of B when A does not equal zero and turn it on again when A does equal zero. Hmmm...

If you multiply a number or expression by zero, you get zero. if you multiply a number or expression by one, you get the same number or expression. Bearing this in mind, and considering that a logical expression ((A=0) for examp.) returns a zero, if false, and a -1 if true, what if we could enclose the part of our formula that adjusts our variable, "B", and multiply it by the logical expression (A=0)?

```
170 B=B+(1+(B=5)*6)*(A=0)
```

It's a step in the right direction. If A does not equal zero, then the expression (A=0) would return a zero, and when multiplied by the portion of the formula enclosed in parentheses would result in a zero as well, effectively turning off the incremental portion of the formula. It is solved as follows:

The only problem with this is that, if the expression is true (A=0), then it wil yield a result of -1. If we use this value, it will result in B being reduced by one instead of being increased. If we use the ABSolute value of the expression, (A=0), then if the expression is false, we get zero. But, more importantly, if the expression is true, the negative sign is stripped from the result, leaving a positive 1. This is exactly what we want:

```
170 B=B+(1+(B=5)*6)*ABS(A=0)
```

With this formula, B is incremented only when A is reset to zero. One thing to be certain of; you must be aware of exactly what any variable will contain at any given moment. If not, you may encounter a situation not allowed for in your formula(s). This is especially true when your formula contains more than one variable. If we solved the B formula before the A formula, then neither formula would work properly. Sometimes it is helpful to construct a table with the possible combinations of all the variables contained in your formula and solve the formula for each different combination.

The next two variables, C and D, look just like B except that when

checking C, we need to make sure that both A and B are reset, and with D, that A, B, and C are reset:

```
180 C=C+(1+(C=9)*10)*ABS((A=0)*(B=0))
190 D=D+(1+(D=5)*10)*ABS((A=0)*(B=0)*(C=0))
```

If any of the variables checked don't equal zero, then the absolute value is zero. When multiplied by the other expression in the formula, it to becomes. zero. There is only one combination for each of these formulas that will produce a non-zero result. If you look closely at the "C" formula, you may notice that the ABS() function is not necessary, since -1 times -1 equals 1, but I left it in for symmetry. You may remove it if you wish.

Well, so far we've got this:

```
100 CALL CLEAR
110 A=0
120 B=0
130 C=0
140 D=0
+
+
+
+
+
200 A=A+1+(A=9)*10
210 B=B+(1+(B=5)*6)*ABS(A=0)
220 C=C+(1+(C=9)*10)*ABS((A=0)*(B=0))
230 D=D+(1+(D=5)*6)*ABS((A=0)*(B=0)*(C=0))
+
```

We've got our housekeeping done (100-140), and we've got our formulas (200-230). How can we see the results of our hard work? Let's put some HCHAR() statements in between these sections to display the numbers generated:

```
150 CALL HCHAR(12,15,58)
160 CALL HCHAR(12,13,D+48)
170 CALL HCHAR(12,14,C+48)
180 CALL HCHAR(12,16,B+48)
190 CALL HCHAR(12,17,A+48)
```

As you may know, the first value in an HCHAR() statement indicates which row the character is to be placed, while the second is the column. The third value is the ASCII value of the character that you want in the position specified. Since our variables contain actual values rather than ASCII values, we must add forty eight to each variable to bring it up to it proper ASCII value. The first HCHAR() statement places a colon between the "minutes" and "seconds". All that's left is to loop back through the program so it can run continuously. We will loop back to Line 160 because it is not necessary to redraw the colon each time the loop executes:

```
240 GOTO 160
```

This "clock" runs a bit fast. About three of its "minutes" are counted every minute of real time elapsed. It wasn't intended to be accurate,

rather than to illustrate logical expressions. As the program is written, all the values are redrawn regardless of whether they were changed or not. This is because there are no conditional statements in the program. All the lines in the loop are executed in exactly the same order each time and the loop executes in exactly the same amount of time each time. This is regardless of how many numbers are changed each time. If you wanted to place a small timing loop at the end of the program, you could adjust it to time fairly accurately. At least until the computer stops what it's doing to perform "garbage collection".

Here is the completed listing:

```
100 CALL CLEAR
110 A=0
120 B=0
130 C=0
140 D=0
150 CALL HCHAR(12,15,58)
160 CALL HCHAR(12,13,D+48)
170 CALL HCHAR(12,14,C+48)
180 CALL HCHAR(12,16,B+48)
190 CALL HCHAR(12,17,A+48)
200 A=A+1+(A=9)*10
210 B=B+(1+(B=5)*6)*ABS(A=0)
220 C=C+(1+(C=9)*10)*ABS((A=0)*(B=0))
230 D=D+(1+(D=5)*6)*ABS((A=0)*(B=0)*(C=0))
240 GOTO 160
```

Let's see if I can find the calendar program I submitted to the newsletter a couple of years ago....Ah! Here it is:

```
100 REM CALENDAR- PREPARES CALENDARS USING STEP FUNCTIONS
110 DATA JANUARY,FEBRUARY,MARCH,APRIL,MAY,JUNE,JULY,AUGUST
120 DATA SEPTEMBER,OCTOBER,NOVEMBER,DECEMBER
130 DIM MO$(12)
140 FOR I=1 TO 12
150 READ MO$(I)
160 NEXT I
170 INPUT "ENTER YEAR (1900-1999)":Y
180 Y=Y-1900
190 REM GET JULIAN AND #DAYS SINCE 01/01/1900
200 D=1
210 M=1
220 GOSUB 360
230 PRINT TAB(2);1900+Y:TAB(3);"----"
240 FOR I=C TO C+364-(Y=INT(Y/4)*4)
250 REM GET M,D,Y
260 C=I
270 GOSUB 400
280 IF D<>1 THEN 300
290 PRINT : : :TAB(2);MO$(M):
300 W=I-INT(I/7)*7-7*(I=INT(I/7)*7)
310 PRINT TAB(((W+1)*4)-7);D;
320 IF W<>7 THEN 340
330 PRINT
340 NEXT I
350 END
360 REM GIVEN M,D,Y RETURN J=JULIAN DAY AND C=DAYS SINCE 01/01/1900
```

```
370 J=INT(30.42*(M-1))-(M=2)+((M>2)+(M<8)=-2)-((M>2)+(INT(Y/4)*4=Y)=-2)+D
380 C=J+365*Y+INT((Y-1)/4)+1
390 RETURN
400 REM GIVEN C=#DAYS SINCE 01/01/1900, RETURN J=JULIAN, M,D,Y
410 REM #LEAP YEARS SINCE 1900
420 L=INT(C/1461.1)
430 Y=L*4-(C>(L*1461)+366)*(INT((C-L*1461-366)/365.1)+1)
440 J=C-Y*365-INT(Y/4)+(Y>0)-(INT(Y/4)*4=Y)
450 M=J+((J>59)*(INT(Y/4)*4=Y))
460 M=INT(M/30.42)+1-(M=60)+(M=31)-((M=91)+(M=121)+(M=152)+(M=182)<>0)
470 REM FIND C FOR 01/M/Y
480 D=1
490 I=C
500 J1=J
510 GOSUB 360
520 J=J1
530 D=I-C+1
540 RETURN
```

Sorry it took so long to find this. I had to dig through a bunch of old cassettes to find it, load it into memory, and list it to disk. Then I could load TI WRITER in, load my column and then this listing.

This program, for those of you who don't know from before, will produce a yearly calendar for any year you select in the 20th century. It makes use of mathematical formulas similar to what was discussed earlier. Your job, should you decide to accept it, is to decipher this listing with your new-found knowledge.

Before I end this column, I'd like to take a moment and get on my soapbox and ask members to volunteer to distribute membership info to TI owners in your Zip Code area. You benefit the group by the additional membership fees which allow the group to do more and better things for you and you benefit yourself because you may find someone locally to share your hobby with and discuss ideas. When was the last time you told someone you had a TI Home Computer and they didn't try to beat a path away from your door? If you had someone in your neighborhood who owned a TI, then you would, perhaps, find a computer ally. Also, if you help your User's group you help yourself, because YOU are the User's group.

I can't believe it. It's only June 15, and I'm finished with this. This is probably the first column submitted for the SUPER SUMMER issue. Actually, I tried to finish early, because I've got a lot going on this summer. I hope your summer is/was a busy and happy one. See/hope I saw you at the picnic!

MEMBERSHIP CHAIRMAN SPEAKS

Don Jones

Hi there, Sports Fans, or maybe I should say, "Howdy there, Pardners!" Maybe I should talk like that after all of the talk that I read on our bulletin board about getting a vigilante posse together for the purpose of having a little "neck-tie party" for a foolish individual who uploaded a very destructive program to a bulletin board and used someone elses name, number, and password to do it. Well, Sports Fans, it has been a rather **HOT** summer! Well, down to business:

First, I would like to thank Hank Ellermann for the time that he spent informing our beginning S.I.G. about the true nature of a RAM disk. I must here admit that I found his talk to be most informative as before that time, I never fully understood what was meant by a RAM disk. I used to think that it was a certain kind of disk drive! For any other new, or otherwise confused members, like me, we will continue to have meetings of our beginners S.I.G. and we will continue to have guest speakers for the purpose of answering any and all computer related questions on any area where there may be confusion.

At first, I thought that we weren't going to meet, but from the requests and questions that were constantly being put to me about when and where we were going to meet, I felt that for the sake of my own personal safety, we had better meet as I didn't want to find out how powerful a left hook some of the ladies in our group can throw. Therefore, please be informed: the next meeting of our "...and what do I do next?" S.I.G. will be the September meeting and it will also meet after EVERY regular meeting for the rest of the year. (The only exception will probably be the time of the Faire.) I want to make this very clear, especially to the little lady whose boyfriend's nick-name happens to be "Rocky." Have no fear; your group WILL meet!

A few of our regular members have moved out of the Chicago area and some others have been unable to attend our meetings, due to changes in their work schedules. To these people in particular, and to all members in general, if you so desire, you may convert your membership to the non-attending status. A one time fee of $3.00 is all that is needed. For the $3.00, you will receive the following: a.) A catalogue of our program library, b.) a password to our electronic bulletin board system, c.) a copy of Sheila Baumann's excellent BBS users' information guide, and d.) a "flippy" SS/SD disk (or a cassette tape) with sample programs from our library. I also want to make it clear that non-attending members are always welcome to attend our meetings whenever they are in town or whenever their schedules will permit them to do so.

For those of you who have not yet volunteered to deliver membership information materials to addresses within you zip code areas, the need is

still there. We have a large number of mailing labels with addresses of TI owners who are not presently members of our group. We have had them for a couple of years now and some of these names and addresses are getting a little old. What I mean to say is that as time passes, people move and their circumstances change. For this reason, some of the people are unable to be found or they no longer have their machines. As each year passes we will find more names on that list that are invalid for our purposes. For that reason, we must use these names while they are still living at the listed addresses and while they still have their machines. A closeted machine is bad, but a non-user transformed into an non-owner is even worse!

Regarding our drive to enroll members, by going out into your own community to pass out membership materials to owners, you may be able to improve your own situation relative to your computer: By going out on this drive, you can get to know more owners and users in your own community. Once you know who these people are, you may want to meet together within your own communities for the purpose of helping each other. The net result of such activity will help to improve the environment for our machine and the general expertise of our group. Also, Rich Klein mentioned to me, in a phone conversation, that the chance to meet regularly with another (or other) user(s) for the purpose of exchanging ideas can be useful in product development. I'm just putting these ideas out to show you that it is potentially in everybody's best interest to have as many members in our group as possible. Anyone who is interested should write to Pat Vetter (at our P.O. Box number), see her at our next meeting, or leave her a message on our bulletin board; she is our volunteer chairman. For those of you who do or have already volunteered, please return to her any undeliverable materials so that we can recycle them.

Whenever a person becomes a member of our group, I personally send out a "new member" packet. Included within that packet is a copy of our membership information guide. In the covering letter, that is also included within the packet, I request that the membership application form be cut out, filled in, and returned to me at our P.O. box number. Quite a few new members have never returned their application forms and these forms are what I want to keep on file. If you are a new member and have not returned your application, please do so. If you have lost your application, please request another. I will be happy to send it to you. All information is kept confidential and names, addresses, and phone numbers are not given out to other members within the group.

Well Sports Fans, I now have some bad news to lay on you: there has been an increase in membership dues. Effective September 1, 1986, the cost of regular dues will be $18.00; the cost for non-attending memberships will be $21.00; the cost of overseas non-attending memberships will be $24.00 (the extra $3.00 being for the extra postage costs). Current members who renew their memberships, during our annual membership renewal drive, between September 1 and December 31, will receive a $3.00 discount. This means that membership renewals will be $15.00 ($21.00 for overseas members). The extra $3.00 charge for non-attending members is a one time cost and is not to be paid when renewing. This is our present policy.

Let me make it clear, at this time, that this is the first dues increase that we have ever had. I came to the decision relative to the need for the increase after some very frank and candid discussions with our president. I then made a proposal, to this effect, to our executive

board. The executive board concurred on this matter unanimously.

Some member may question the need of a dues increase. The first thing that I want to say is that the majority of your dues money goes for the printing and mailing of your newsletter. It costs us $1.00 for the printing of each newsletter. The cost of this larger Super Summer Issue is $2.00. We also spend, on the average, $0.45 in postage to send out each newsletter by first class mail as most members want their newsletters without any delay. If you add up just the costs for the newsletter, you will see that not too much is left over.

Some of you may wonder how we got to the point where our expenses come so perilously close to our income. Those of you who have been around for a few years, can go back and take a look at our first newsletters, when Dave Wakely was the editor. They consisted of TWO sheets of paper stapled at the upper left-hand corner! We do owe a great deal of gratitude to Bruce, who is no longer with us,(Editors clarification: Bruce is alive and kicking, just not kicking a TI these days), as it was he who transformed our newsletter into its present form. And since Carole Goldstein has taken over the editorship of our newsletter, it has grown astronomically both in size and degree of sophistication. (I for one feel that Carole is doing a great job. Unfortunately, her work is often taken for granted and unthanked.) Other group expenses have also increased. There have been months when my postage costs have exceeded $100.00! This is largely because we are now reaching out to and serving more users/members in more ways than ever before. By the time that you receive this newsletter, our membership will be around 600!

I personally feel that the increase in our dues, of an additional $3.00, is both reasonable and justifiable. We are easily, by now, the largest TI users' support group in the world. We now have members in Canada, Germany, Denmark, Sweden, and Italy. (Please forgive me if I neglected to mention your country.) We are no longer a small provincial group meeting out of someone's basement. I therefore submit that the $18.00 a year, which we are now requesting, is a very good deal. For those members who are concerned with the specifics of where the group's money is going, a detailed accounting disclosure will be printed in a later issue of this year's newsletter.

I still continue to get occasional letters; usually, they are from new members who don't know to whom they should initially address their inquiries. Last month, for the first time, I shared some of the comments that have been directed to me. At that time, I quoted a non-attending member, Marc Levine, of Urbana, Illinois and maybe I owe him an apology. His comments were relative to whether or not Myarc would actually come out with the new machine. He said that he doubted it, but I said that I was optomistic. I never asked Marc for his permission to use his name or comments in the newsletter and I never intended to put him on "front street" or see which of us would be right and who would be wrong. I only wanted to add a little interest to my article and show some of our other members how some of our more distant brothers and sisters feel about the machine and the present environment. Well, I do believe that our great editor is giving Marc the opportunity to redeem himself elsewhere in this issue.

I find that a lot of our new non-attending members have a lot of enthusiasm about joining our group. Here is a short letter that came this month from North Augusta, South Carolina:

Dear Don,
The Chicago-Area group sounds great. Please sign me up. I can't wait to try your BBS. Do you support 1200 and/or 2400 baud? XMODEM??
Please send my disk in DS/DD, 18 sector format, if possible.
Can you give me some SOURCE ID's of people in your group?
Thanks,
Larry Harpring

First, Larry, it's great to have you on board. Secondly, at this time, we only support 300 and/or 1200 baud on our BBS and we do support XMODEM, TE2, and X/ON-X/OFF (ASCII code) transfers. We do not support 2400 baud at this time as we don't feel that enough of our members have modems that can utilize this particular feature. If this situation changes, in the future, you can be assured that our SYSOP and executive board will give it a great deal of consideration. Thirdly, we also don't send DS/DD disks for the reason that not enough of our members are presently using that format though the situation is beginning to change. Lastly, though we don't give out individual members addresses or phone numbers, I see nothing wrong with giving out SOURCE ID's, if the owners of these numbers consent. I am therefore requesting that any members who want their SOURCE ID number to be published send them to me. I will make a list which will be printed in our next newsletter. In this way, those of you who wish to correspond in this way will feel free to do so.

Since this has been a rather long article, I will quote from only one other recent letter:

Dear Donald C. Jones,

Enclosed is the membership application that you requested me to return to you.
I would also like to take this opportunity to introduce myself: I am an electronic technician, with the Northrop Dakota Manufacturing Plant. (We are part of the electronic division of the Northrop Corp., in Hawthorn California.) I have been doing this work for about 12 years. I have also been programming on the TI for about 3-4 years.

Here in New Town, there are seven other people who own TI's. We have a difficult time getting information and programs. I am most interested in business, utility, and technical information.

I am currently looking for a stand-alone disk controller and drive. I would be most interested in a kit or conversion plan.

As of the date of this writing, I have just received my modem. I hope to have it up and running soon.

I like your newsletter; especially the policy of sending the year's back issues. It really helps bring you on board quickly.

Thank you for your prompt response and I look forward to a long working relationship. I would like to hear from you or anyone else who would like to exchange ideas.

Duane Wangen, Jr.
Box 417
Newtown, North Dakota 58763

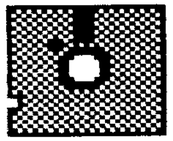
First, I want to thank you, Duane, for your kind letter. It's also great to have you on board too. It is great to have technical types of people, like yourself, dealing with our TI computer. It is clear that engineers and technicians are among those users who are able to appreciate what our machine can do. In fact, if I may be allowed to digress, the son of my principal-supervisor, has been taking some computer courses. His dad told me that the instructor told his class that all of the members should attempt to find a TI computer for the purpose of learning assembly language. The reasons being: a.) the reasonable cost of the machine, b.) the high quality of the assembly language dialect which our machine uses, and the fact that it is a fully 16 bit machine. One of my neighbors, who is doing computer research work at the graduate level at Northwestern University, is very impressed with our assembly language dialect. He mentioned to me that some other computers have neither the floating decimal point or a true multiplication function in their assembly languages!

Also, Duane, for more information, I feel that this newsletter and Micropendium, a truly excellent publication, can help to fill some of the vacuum. Relative to your desire for programs, please feel free to order them from our catalogue, which all non-attending members have received as part of their memberships. At one time, due to the unprecedented number of orders which our library received, we were sorely behind. Many orders were literally months behind, but thanks to the hard work of Bob Demeter, we are all caught up. Anyone ordering programs will have them sent out within one week. If you have ordered before and were frustrated by the long waiting period, please accept our most profound apologies and give us another chance. As we can only depend on voluntary labor, it is sometimes impossible to get things done as quickly or as efficiently as we would like, but we try. We now have more volunteer help and an improved system. Therefore, please try us again. This time, you won't be disappointed. **TRUST ME!**

I have one last comment to direct to Duane: If you have any hardware or software that you wish to either find or sell, send a notice of this to our newsletter c/o the Swap 'n' Shop column. Your announcement will be printed at no charge to you as you are a member.

I have taken the liberty of printing Duane's address as he has made the request to hear from other members who want to exchange and share ideas. I hope that this is what he wanted me to do.

Well, Sports Fans, it's time for me to sign-off until September. I hope that you are enjoying your summer and your Super Summer Issue. Just don't forget that all the thanks and praise should be directed to Carole Goldstein who has allowed our newsletter to evolve into what it presently has become. I would also like to warn you that I intend on putting contracts out on those local members who can but have not volunteered. My contract will be to have Texincia Lubbock catch you and sit on you and no one has ever survived that!



SOFTWARE REVIEW

Jack Topham

Version 2.0 SIDE*PRINT from Jim Swedlow now works with EPSON printers that have graphics capability, the GEMINI 10X, PANASONIC KX-P1090, and the TI-PHP2500 printers. And you can set the defaults to customize the program to your system. The program is written in XBASIC but is not slow! 5$ for DISK, POSTAGE, and MAILER plus a reasonable donation (up to $10) will get you the program, clear and complete documentation, and as a bonus a neat XBASIC DISK MENU LOADER program.

SIDE*PRINT will print MULTI-PLAN reports up to the maximum of 63 columns which at an average of 10 Characters per column would be a 5 foot long report. If more than 80 rows are used a second sideways report can be printed.
The MULTI-PLAN file must be saved using the PRINT FILE option to create an ASCII text file. Sure, it will print a TI-WRITER text file sideways as well. The report quality is excellent due to the unidirectional printing mode used.
I can highly recommend this utility for those who have tired of the old cut and paste approach to large MULTI-PLAN reports.

7301 Kirkby Way
Stanton, CA 90680

At the last meeting I purchased a copy of the much touted BUSINESS GRAPHICS from HUNTER ELECTRONICS ($20). I found it to be as advertised: "user friendly" with easy to use screen menus. BG like SIDE*PRINT requires 32K memory, E/A or XB cart, and DISK capability. A printer, while optional is really needed to practically use BG.
The program is written in FORTH so execution is quick. Screen displays are drawn quite fast so you can quickly compare different presentations before printing on paper. BG offers three types of graphic presentations of data. PIE, LINE, and BAR graphs. Each type requires a separate data entry so that each can use memory to the fullest. The data can be displayed in a variety of ways within each graphic type.

If you choose PIE, your data will be presented as slices which can be presented as a round pie or with any or all of the pieces exploded. The slices can be colored for screen viewing and/or textured for printing. 8 textures and 12 colors are available. Data entry is easy once you read the book to understand the screen menus.
Choosing LINE GRAPH allows up to 100 data items to be used (and saved to disk). A data item consists of the identification of the item and a max and a min value if desired. Some presentations print only the max value, others both. The printout can start anywhere within the data set and display as many data sets (density) as you choose. Min/max data allows a HI-LO plot by week for stock prices for example. The user can present the data many different ways and see it before printing.

The BAR GRAPH option is my favorite. You can plot the max values as a standard bar chart or use min/max feature for side-by-side or stacked bar

charts. Here again, color and textures make screen and hardcopy displays great. Up to 20 bar graph data sets can be used and saved to disk.
Now for the frosting: The LINE and BAR graph disk files can be generated on MULTI-PLAN. Complete instructions are included in the manual. One last item, BG PIES are perfectly round because the printer line feed can be micro adjusted for your system, and only needs to be done once. Another super program. One note however; the screen menus are in FORTH 64 col size. TINY but readable and you can change screen colors for best results. Its worth a squint or two.

Back when TI was in the 994A business they made a deal with Milton Bradley to develope a series of programs that would add SPEECH RECOGNITION to the 994A bag of tricks. MB spent millions and produced the MBX system which sold for $150+. They also developed about 10 programs to be used with MBX. These sold for about $40. NEW MBX units are still available for about $40 and the programs at $8-$10! Many of us have dreamed of busting the code so MBX could be used in user written programs. Well when I saw Assembly Heads like old John Behnke buying MBX, I decided the time had come for me to break down as well. $50 poorer I had MBX and BASEBALL. It works just like they said. You train it to your voice and you play big league baseball by voice. THe game is amazingly complete even without the voice thing. You need nothing but a console since MBX has its own speech synthesizer built in. You can name the players anything you want and they will field to your every command. With MBX the CUBS can play the SOX! Go get um sports fans. Shop around or see Roy Hunter.

More (or less) on MYARC's new XBII. I received mine in early March after a six month wait only to find that V 2.1 that we all really need would not be available until 1 April. So I waited, one month, then two. MYARK now says mid-JUNE! In JULY it will be one full year since they announced the product and I ordered mine. I will go a little slower with their new computer. If and when XBII is fixed, it will be terrific. The part that works does as advertised. Cross your fingers but don't hold your breath.

Voila! In the mail came the latest release of "C" from Clint Pully in Canada. $20 does get you the updates. All new and better and faster compiler. Even SPEECH this time. Over 700 sectors of updated material. Several new LIBRARIES also. If you sent Clint your $20, you should be hearing from him soon. We should add a "C" section to our annual software competition. "C" is a true compiled language that is fully transportable, so come on in "the water's fine".

PRACTICAL PROGRAMMING PRACTICES

CODER by John Behnke

```
100 !++++++++++++++++++!
110 !    "Text Coder"   !
120 !  By John Behnke   !
130 ! Requires X-Basic  !
140 !                   !
150 !Create file using  !
160 !TI-Writer and save!
170 !to disk.  Run this!
180 !program and select!
190 !a secret passwword!
200 !Output new file tc!
210 !disk. The new file!
220 !will be unreadable!
230 !and to decode, run!
240 !this program using!
250 !password selected.!
260 !++++++++++++++++++!
270 DISPLAY AT(1,10)ERASE AL
L:"TEXT CODER"
280 DISPLAY AT(6,3):"1. Enco
de Text File"
290 DISPLAY AT(8,3):"2. Deco
de Text File"
300 CALL KEY(0,K,S)
310 IF K<49 OR K>51 THEN 300
320 DISPLAY AT(20,1):"Filena
me?"
330 ACCEPT AT(20,11)BEEP SIZ
E(-15):A$
340 DISPLAY AT(21,1):"Passwo
rd"
350 ACCEPT AT(21,11)BEEP:PW$
360 D=LEN(PW$)
370 DISPLAY AT(22,1):"Output
 device"
380 ACCEPT AT(22,16)BEEP SIZ
E(-15):OD$
390 OPEN #1:A$ :: OPEN #2:OD
$
400 LINPUT #1:B$ :: IF EOF(1
)THEN 510
410 QW=1 :: CS$="" :: FOR I=
1 TO LEN(B$)
420 T=ASC(SEG$(B$),I,1))
430 U=ASC(SEG$(PW$,QW,1))
440 IF K=49 THEN T=T-U
450 C$=C$&CHR$(T)
460 IF QW=D THEN QW=1 ELSE Q
W=QW+1
470 NEXT I
480 PPINT C$
490 PRINT #2:C$
500 GOTO 400
510 CLOSE #1 :: CLOSE #2 ::
END
```

- - - - - - -

```
100 REM **DISK JACKET** by A
. W. STUMP 6/6/86.
110 REM BASED ON JOSEPH BART
LE'S DISK JACKET CAT
120 REM SCREEN IS RED WHILE
FILE IS OPEN
130 OPTION BASE 1
140 DIM P$(44),X(44),Y(44),F
$(5),I$(44):: GOSUB 760
150 CALL SCREEN(15)
160 DISPLAY AT(3,5)ERASE ALL
:">>> DISK CATALOG JACKET <<
<"
170 RESTORE
180 FOR L=6 TO 15 :: READ IN
$ :: DISPLAY AT(L,1):IN$ ::
NEXT L
190 GOSUB 740
200 DISPLAY AT(L+2,1)BEEP:"I
NSERT DISK AND PRESS A KEY"
210 CALL KEY(0,K,S):: IF S=0
 THEN 210
220 DISPLAY AT(11,8)ERASE AL
L:"READING DISK" :: CALL SCR
EEN(10)
230 OPEN #2:"DSK1.",INPUT ,R
ELATIVE,INTERNAL
240 INPUT #2:A$,B,C,D :: C=C
-D
250 DISPLAY AT(11,3)ERASE AL
L BEEP:"PROCESSING.....>";A$
260 A$=A$&SEG$(" ",
1,10-LEN(A$))
270 C$=SEG$(O$,1,6-LEN(STR$(
C)))&STR$(C)
280 D$=SEG$(O$,1,6-LEN(STR$(
D)))&STR$(D)
290 H$="  "&K$&"   "&"&"DI
SK NAME:"&""&A$&""&"&"
  "&C$&" USED"&D$&" FREE
     "&K$
300 FOR I=1 TO 44 :: INPUT #
2:A$,B,C,D :: IF LEN(A$)=0 T
HEN 340
```



```
310 ROW=13 :: COL=10 :: GOSU
B 680
320 X(I)=ABS(B):: Y(I)=C ::
P$(I)=A$&SEG$("          ",1
,10-LEN(A$))
330 NEXT I
340 CLOSE #2 :: CALL SCREEN(
15)
350 DISPLAY AT(10,6)ERASE AL
L:"TO CANCEL PRESS C"
360 DISPLAY AT(12,2)BEEP:"TO
 PRINT PRESS ANY OTHER KEY"
370 CALL KEY(0,K,S):: IF S=0
 THEN 370
380 IF (K=67)+(K=99)THEN 660
390 DISPLAY AT(11,5)ERASE AL
L:"PREPARING TO PRINT"
400 FOR I=1 TO 22
410 IF P$(I)="" THEN 480
420 I$(I)="  "&K$&"   "&P$(I
)&SEG$(O$,1,6-LEN(STR$(Y(I))
))&STR$(Y(I))&F$(X(I))
430 IF P$(I+22)="" THEN 460
440 I$(I)=I$(I)&O$&P$(I+22)&
SEG$(O$,1,6-LEN(STR$(Y(I+22)
)))&STR$(Y(I+22))&F$(X(I
+22))&"   "&K$
450 GOTO 470
460 I$(I)=I$(I)&"
                  "&K$
470 NEXT I
480 DISPLAY AT(11,5)ERASE AL
L BEEP:"PRINTING DISK JACKET
"
490 OPEN #1:"PIO"
500 PRINT #1:CHR$(27);"U";CH
R$(1);CHR$(27);"8"
510 PRINT #1:L$ :: PRINT #1:
H$ :: PRINT #1:M$
520 FOR I=1 TO 22
530 IF I$(I)="" THEN 560
540 PRINT #1:I$(I)
550 GOTO 570
560 PRINT #1:M$
570 NEXT I
580 PRINT #1:L$
590 FOR I=1 TO 28 :: PRINT #
1:N$ :: NEXT I
600 PRINT #1:"          +----
----------------------------
----------------------+"
610 PRINT #1: : : : : : : :
: : :
620 CLOSE #1
630 DISPLAY AT(10,7)ERASE AL
L:"DISK JACKET DONE"
640 DISPLAY AT(12,6)BEEP:"PR
ESS Y TO CONTINUE"
650 CALL KEY(0,K,S):: IF S=0
 THEN 650 :: IF K<>89 THEN 6
70
660 CALL CLEAR :: GOTO 190
670 RUN "DSK1.LOAD"
680 CALL HCHAR(13,10,32,12)
690 FOR I1=1 TO LEN(A$):: CA
LL HCHAR(ROW,COL+I1,ASC(SEG$
(A$,I1,1))):: NEXT I1
700 RETURN
710 DATA " THIS PROGRAM IS D
ESIGNED TO",PRINT A DISK'S C
ATALOG AND,THE OUTLINE A
ND FOLD LINES,FOR A DISK JAC
KET.
720 DATA " THE RESULT WILL B
E A JACKET",FOR YOUR DISK TH
AT WILL GIVE,YOU A FULL
CATALOG (UP TO 44,NAMES) AND
 WHEN FOLDED FIT
730 DATA INTO THE BRAND  JAC
KET WITH,THE DISK'S NAME VIS
IBLE.
740 FOR I=1 TO 22 :: P$(I)="
" :: P$(I+22)="" :: X(I)=0 :
: X(I+22)=0 :: Y(I)=0 ::
 Y(I+22)=0 :: I$(I)="" :: NE
XT I
750 RETURN
760 O$="       "
770 K$="|"&O$&"|"
780 L$="  +------+----------
----------------------------
----------------+------+
"
790 M$="  "&K$&"
                  "&K$
800 N$="            |
                    |"
810 F$(1)="  D/F" :: F$(2)="
  D/V" :: F$(3)="  I/F" :: F
$(4)="  I/V" :: F$(5)="
 PGM"
820 RETURN
```

Two Patriotic Songs

Here are a couple of tunes to go along with this summer's Statue of Liberty celebration. These are minimal music demos that make use of the two routines from last month's newsletter (p.13). I've included a music chart in case you'd like to try transcribing your own favorite music. Given the sheet music, the procedure I use is to take the top and bottom notes of the treble clef, and the bottom note of the bass clef for the three-note chord. If the note is below the low A, I raise it an octave. Last month I made the mistake of saying the duration (D) is 1 for a quarter note. It should be 1 for the shortest note (in these two songs: an eighth note).

Music Chart (zero is a silent rest)

	- A -	37		
			Ab/G#	36
	G	35		
			Gb/F#	34
	------- F -------	33	-------	
	E	32		
			Eb/D#	31
	------- D -------	30	-------	
			Db/C#	29
	C	28		
treble clef:	------- B -------	27	-------	
			Bb/A#	26
	A	25		
			Ab/G#	24
	------- G -------	23	-------	
			Gb/F#	22
	F	21		
	------- E -------	20	-------	
			Eb/D#	19
	D	18		
			Db/C#	17
middle C:	- C -	16		
	B	15		
			Bb/A#	14
	------- A -------	13	-------	
			Ab/G#	12
	G	11		
			Gb/F#	10
	------- F -------	9	-------	
	E	8		
			Eb/D#	7
bass clef:	------- D -------	6	-------	
			Db/C#	5
	C	4		
	------- B -------	3	-------	
			Bb/A#	2
	A	1		

Listing #1

```
100 REM  "My Country, 'Tis of Thee"
110 REM  transcribed by John Hedstrom
120 REM  Monday/June 9, 1986
130 CALL CLEAR
140 CALL SCREEN(15)
150 S$="My Country, 'Tis of Thee"
160 GOSUB 1000
170 S$="(Thesaurus Musicus 1740)"
180 GOSUB 1000
190 DIM F(38)
200 F(0)=44733
210 X=2^(1/12)
220 FOR L=0 TO 36
230 F(L+1)=110*X^L
240 NEXT L
250 FOR L=1 TO 41
260 READ D,A,B,C
270 CALL SOUND(D*250,F(A),0,F(B),0,F(C),0)
280 NEXT L
290 REM  M1
300 DATA 2,21,16,9,2,21,16,9,2,23,18,2
310 REM  M2
320 DATA 3,20,16,4,1,21,18,4,2,23,20,4
330 REM  M3
340 DATA 2,25,21,9,2,25,21,6,2,26,23,2
350 REM  M4
360 DATA 3,25,21,4,1,23,20,4,2,21,0,6
370 REM  M5-6
380 DATA 2,23,18,2,2,21,16,4,2,20,16,4,6,21,16,9
390 REM  M7
400 DATA 2,28,25,9,2,28,25,13,2,28,25,16
410 REM  M8
420 DATA 3,28,25,9,1,26,23,9,2,25,21,9
430 REM  M9
440 DATA 2,26,23,4,2,26,23,8,2,26,23,11
450 REM  M10
460 DATA 3,26,23,4,1,25,21,4,2,23,20,4
470 REM  M11
480 DATA 2,25,21,9,1,26,21,9,1,25,21,9,1,23,21,9,1,21,21,9
490 REM  M12
500 DATA 3,25,21,9,1,26,20,11,2,28,21,13
510 REM  M13-14
520 DATA 1,30,21,14,1,26,23,18,2,25,21,16,2,23,20,4,6,21,13,9
530 STOP
1000 N=LEN(S$)
1010 X=(32-N)/2
1020 FOR L=1 TO N
1030 C$=SEG$(S$,L,1)
1040 C=ASC(C$)
1050 IF C=32 THEN 1070
1060 CALL SOUND(1,-6,0)
1070 CALL HCHAR(18,L+X,C)
1080 NEXT L
1090 PRINT :::
1100 RETURN
1110 END
```

Listing #2 (substitute the following lines into listing #

```
100 REM   "America the Beautiful"

150 S$="America the Beautiful"

170 S$="(Samuel A. Ward 1882)"

250 FOR L=1 TO 62

290 REM   M1-2
300 DATA 2,23,20,4,3,23,20,4,1,20,16,4,2,20,16,4,2,23,20,
310 REM   M3
320 DATA 3,23,18,6,1,18,15,6,2,18,15,6,2,20,16,11
330 REM   M4
340 DATA 2,21,18,6,2,23,18,6,2,25,21,11,2,27,21,11
350 REM   M5
360 DATA 2,23,20,4,2,23,20,5,2,23,21,6
370 REM   M6-7
380 DATA 2,23,18,11,3,23,20,4,1,20,16,4,2,20,16,4,2,23,20
390 REM   M8
400 DATA 3,23,18,6,1,18,18,6,2,18,18,6,2,30,23,6
410 REM   M9
420 DATA 2,29,23,6,2,30,23,6,2,32,22,6,2,25,21,13
430 REM   M10
440 DATA 2,30,23,11,2,30,22,13,2,30,21,15
450 REM   M11-12
460 DATA 2,23,0,11,3,32,23,11,1,32,23,8,2,30,23,8,2,28,20
470 REM   M13
480 DATA 3,28,21,11,1,27,23,6,2,27,23,6,2,28,23,8
490 REM   M14
500 DATA 2,30,23,9,2,27,21,11,2,25,21,13,2,23,21,15
510 REM   M15-16
520 DATA 2,28,20,16,2,28,20,4,2,28,21,4,2,28,23,4
530 REM  M17
540 DATA 3,28,21,9,1,25,21,9,2,25,21,9,2,28,21,6
550 REM  M18
560 DATA 3,28,20,11,1,23,20,11,2,23,20,11,2,23,23,11
570 REM  M19-20
580 DATA 2,25,25,13,2,28,28,16,2,23,23,11,2,30,21,11,6,28
590 STOP
```

THE CHICAGO TI USERS GROUP PROUDLY PRESENTS

TI FAIRE 1986

OUR FOURTH ANNUAL TI FAIRE WILL BE HELD ON NOV.1 1986 AT TRITON COLLEGE IN RIVER GROVE, ILL. GENERAL ADMISSION WILL BE $2.00. LAST YEAR WE HAD OVER 2,000 ATTENDEES.

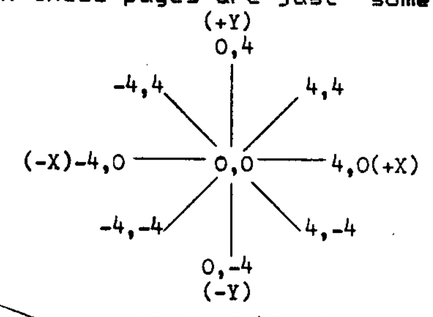
FOR FURTHER INFORMATION WRITE TO THE CHICAGO AREA TI99/4A USERS GROUP, P.O. BOX 578341, CHICAGO, IL 60657.

PROGRAMMING AIDS: Ollie Herbert

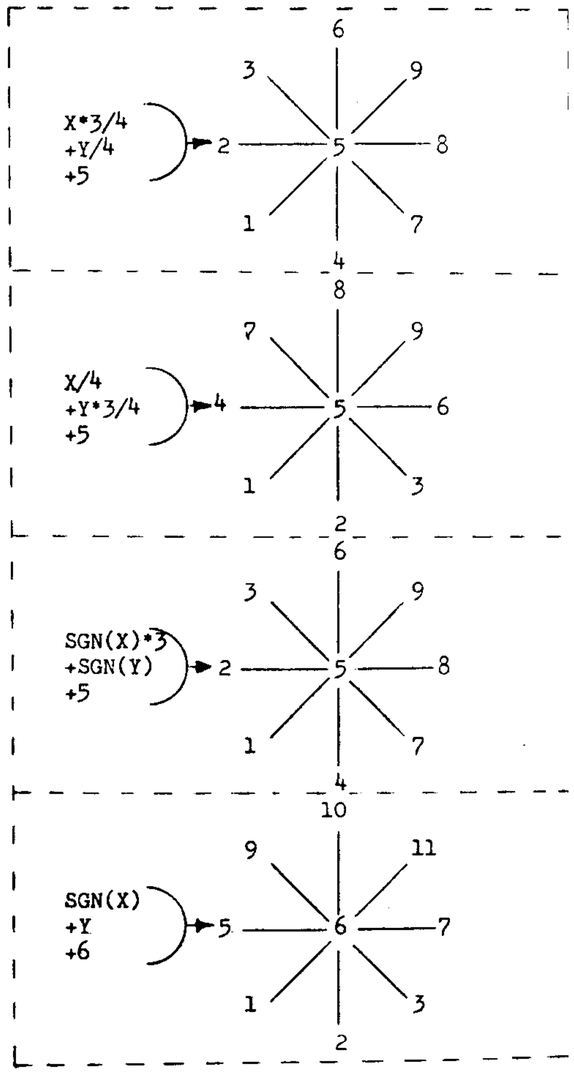
Ollie Herbert has submitted a disk full of programming aids which is available from the group library. Inserted in these pages are just some of his submissions.

TI-99/4A JOYSTICK INPUT ROUTINES & MAPS

Ollie Hebert



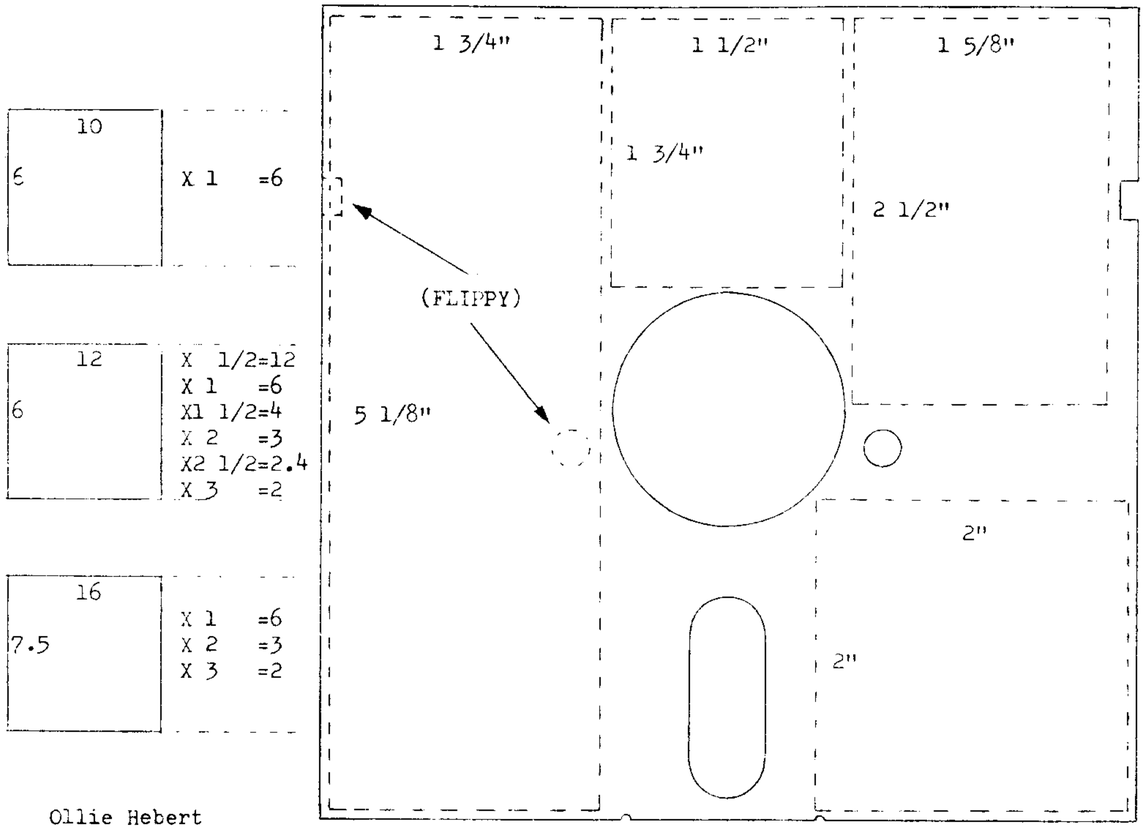

```
 1 CALL JOYST(#,X,Y)
 2 CALL KEY(#,F,S)
 3 IF F=18 THEN 50 ELSE ON X*3/4+Y/4+5
                        ON X/4+Y*3/4+5
                        ON SGN(X)*3+SGN(Y)+5
                        ON SGN(X)+Y+6
 .                                          GOTO 10,20,30,1,50,1,70,1,90,100,110
 .                                          (OR GUSUB...RETURN)
10 (PROCESS DIRECTION 1)
 .
19 GOTO 1
20 (PROCESS DIRECTION 2)
 .
29 GOTO 1
30 (PROCESS DIRECTION 3)
 .
39 GOTO 1
40 (PROCESS DIRECTION 4)
 .
49 GOTO 1
50 (PROCESS FIRE BUTTON)
 .
59 GOTO 1
60 (PROCESS DIRECTION 6)
 .
69 GOTO 1
70 (PROCESS DIRECTION 7)
 .
79 GOTO 1
80 (PROCESS DIRECTION 8)
 .
89 GOTO 1
90 (PROCESS DIRECTION 9)
 .
99 GOTO 1
```



PIANO KEYBOARD, STAFFS, & CALL SOUND for the Texas Instruments 99/4A computer

| | | |

DISK LABEL SPACING
TYPEWRITER CHARACTER SPACING



Ollie Hebert

QUANTITY \ CHARACTERS PER INCH	2	2.5	3	4	6	7.5	10	12	16
1	1/2	7/16	3/8	1/4	3/16	3/16	1/8	1/8	1/16
2	1	13/16	11/16	1/2	3/8	5/16	1/4	3/16	1/8
3	1 1/2	1 1/4	1	3/4	1/2	7/16	5/16	5/16	3/16
4	2	1 5/8	1 3/8	1	11/16	9/16	7/16	3/8	1/4
5	2 1/2	2	1 11/16	1 1/4	7/8	11/16	1/2	7/16	5/16
6	3	2 7/16	2	1 1/2	1	13/16	5/8	1/2	3/8
7	3 1/2	2 13/16	2 3/8	1 3/4	1 3/16	15/16	3/4	5/8	7/16
8	4	3 1/4	2 11/16	2	1 3/8	1 1/16	13/16	11/16	1/2
9	4 1/2	3 5/8	3	2 1/4	1 1/2	1 1/4	15/16	3/4	9/16
10	5	4	3 3/8	2 1/2	1 11/16	1 3/8	1	7/8	5/8
11	5 1/2	4 7/16	3 11/16	2 3/4	1 7/8	1 1/2	1 1/8	15/16	11/16
12	6	4 13/16	4	3	2	1 5/8	1 1/4	1	3/4
13	6 1/2	5 1/4	4 3/8	3 1/4	2 3/16	1 3/4	1 5/16	1 1/8	13/16
14	7	5 5/8	4 11/16	3 1/2	2 3/8	1 7/8	1 7/16	1 3/16	7/8
15	7 1/2	6	5	3 3/4	2 1/2	2	1 1/2	1 5/16	15/16
16	8	6 7/16	5 3/8	4	2 11/16	2 3/16	1 5/8	1 3/8	1
17	8 1/2	6 13/16	5 11/16	4 1/4	2 7/8	2 5/16	1 3/4	1 7/16	1 1/16
18	9	7 1/4	6	4 1/2	3	2 7/16	1 13/16	1 1/2	1 1/8
19	9 1/2	7 5/8	6 3/8	4 3/4	3 3/16	2 9/16	1 15/16	1 5/8	1 3/16
20	10	8	6 11/16	5	3 3/8	2 11/16	2	1 11/16	1 1/4

LENGTH IN INCHES

FROM OTHER ORPHANAGES

Jack Topham

What's fair is fair. Right? Wrong! The faire's the thing if its a TI FAIRE. Recent successful FAIREs have been held in BOSTON, LOS ANGELES, OTTAWA, LONG ISLAND, NEW JERSEY, MELBOURNE, and next is SEATTLE. CUG.. see what you started. For those interested the Seattle do is 26-28 Sept.

Good software and TIPs aplenty come from TIGERCUB SOFTWARE each month. Over 130 original Basic and XBasic programs are available at $3 each. One dollar gets you a catalog and is credited to the first order. The TIPs are available as well. For more info write to 156 Collingwood Ave., Columbus, OH 43213. You wont be sorry

The ATLANTA UG had the following stats on Home Computers in 1985.

1. Commodore 30%
2. TI99/4A 22%
3. APPLE 16%
4. ATARIZ 10%
5. RADIO SHACK 10%
6. IBM JR 8%
7. OTHER 4%

Not bad for a "dead computer"

They also suggest the following to print older modules to PIO. Type in an invalid RS232 response when prompted. When you try to print you will get an error.Now type in PIO and it should work.

The MID-ILLINOIS UG gave two pages to our own Jim Ness's article on DISK DRIVES. Super the way info gets shared.

The BOISE 99er UG previewed a yet to be released program from TEXAMENTS that will allow you to merge a TI-ARTIST file into an XB program. I have ordered a copy and will review it for you. TI-ARTIST gets better and better. The program comes from Robert Petrocone at ENTERPRISE SOFTWARE.

ANNE DHEIN of the NORTHEAST IOWA UG has written a super article on doing GRAPHICS using TI-WRITER. For a copy, drop her a line at 7W Airline Hwy, Waterloo, IA 50703. It's 7 pages so I am not covering it here. Send a SASE.

The DAYTONA UG has listed several neat Gadgets and Gizmos for the 99/4A.

1. A lite pen from ASGARD for $18 including a disk of programs.
2. Jump on Joy. A two foot carpet game controller for $40. Triton Products, CA.
3. Trackball from Tenex at $15 leaves the "stick" behind.
4. Flexable cable for PEB to Console. Tenex again at $25.

I hope this list got around before POPS day.

The UG of ORANGE COUNTY shared their reaction to a new SPREADSHEET program released as freeware. Full featured and competes with TI-MULTIPLAN. Send a SASMAILER to Phil Barnes at 24631 Via San Fernando, Mission Viejo, CA 92692. Well worth the effort from all I hear. Dont forget a donation if you keep it and use it. How much? $10 is the custom these days which is half the average commercial price for a decent program.
These same folks have been talking about all the new BASIC commands that are available if you use the TI PRK module. For a complete listing of these CALLs send a 1$ and SASE to them at 17301 Santa Isabel St, Fountain Valley, CA 92708.

The LOS ANGELES UG April Newsletter called Miller Graphics release of DISkASEMBLER "GREAT NEWS!!!!". Their own Tom Freeman spent 11 months perfecting this program for MG. $20 gets you a well documented dis-assembler for disk files and files in memory. Be the first on your block if you blew it with EXPLORER.

Remember the fine report I gave to Tom Freeman's Double Column Printing of TI-WRITER files program and his SIDEways program? Both are available on disk along with a surprise program for $10 sent to the LA 99ers UG at PO Box 3547, Gardena, CA 90247/7247.

From the GRAND RAPIDS UG Newsletter comes two suggestions. 1) TI-WRITER manual rewrite from Dick Altman at 1053 Shrader St., San Fransisco, CA 94117. $5 would be appreciated. 2) TRIVIA-99er from Bob Wessler at 4300 Frazier, Fort Worth, TX 76115. SASMAILER and please send a donation if you use it.

The ST LOUIS UG printed a short program for pastel colors.

```
90 CALL SCREEN(16)
100 CALL COLOR(1,8,16)
110 CALL CHAR(32,"55AA55AA55AA55AA")
120 CALL CLEAR
130 GOTO 130
```

TRY 14, 12, 10, or 2 as second no. in line 100. They say they picked this up from the Cedar Valley UG. Thanx all.

Our own dear REGINA is offering her programs on disk. Send her $1 for a list. Her programs are first class.
REGINA, PO Box 1502, Cedar City, UT. 84720

A GRAM KRACKER tip from MID-SOUTH UG. The file TIWGRAMDSK has a bug. Load into GK then edit g6323 and change >01 to >04. You can also remove the foreign language promts. Go to g6006 and change 6060 to 60CB.

John BEHNKE got a plug from the NUTMEG UG. They wrote "...here is a sampler of John Behnke's programming expertise(from the Chicago UG). They were wild about John's VDPUTIL2 which allows you to run BASIC programs in XBASIC, and without buying MYARC's XBII. They called it "one of the neatest pieces of code to appear in a long time". Way to go John!. Did you know about VDPUTIL2? It was on the board and in MICROPENDIUM in Feb!

Hold on to your hat! The MADERA UG said in its "MAIL SACK" column "The Chicago TImes, the finest of all newsletters.." WOW! Way to go Carole!

Lest we forget, the SYRACUSE UG reminds us that typing LET is a waste of time and effort. X=1 is all that's needed. Also you dont need to leave a space after the line number. Old No.99 will take care of it later.

The VANCOUVER UG had some nice things to say about our NEWSLETTER also. They picked up on some of Dave's thoughts and added "this is one of the finest "magazines" that we receive." Rich Klein got a by-line too.

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library shelf

— Bob Demeter —

Here we are with another exciting summer issue of the Chicago TImes. From what I understand, this is the second most popular attribute of our group. (the TI FAIRE is number one). It's not hard to see why all eyes look toward the Chicago User Group. With all the talent walking around this group, you'd think we invented the 99/4A. I am very proud to be associated with such a knowledgeable, respected organization.

As you can see by the title, this article is about the library. Speaking of library, have you seen the new library catalog? Simply marvelous, darling. Hats off to John Behnke for an outstanding job. Much time and effort went into it and it certainly was worth the wait. 'Ata boy, John!

As some of you may know, we have split the library up. John is taking care of the regular library and I am handling the Freeware, Fairware, Shareware or Play-now-pay-later-ware. Whatever you prefer to call it, I have it. Don't take the name wrong though. You are expected to make a donation of 5-10 dollars to the author for their hard work. Please don't take the subject lightly. If you have ever written a super nice program, you know it can't be done in 2 or 3 hours. Your 5 or 10 dollar donation will show appreciation for and encourage new programs to be written.

Our Fairware library has been growing every week. I have been sending out disks and money to get my hands on everything I can find. I'd like to thank John Behnke, Nick Iacovelli Jr. and Hank Ellermann for their help in obtaining some of these programs. In the following paragraphs I will list and explain the programs we now have in the Fairware library. New programs are always being released and coming in. As these new programs arrive, I will post them on the User Group's BBS (312 966-2342).

Looking into the Library, I found a few programs that weren't as of yet listed. Some of these were sent in as public domain and some are from the 1986 Programming Contest. All in all, there are some nice pro grams

here. For the sake of completeness, I've included the newest additions to the Fairware library too.

On behalf of the group, I'd like to thank everyone that contributed to our library. Our library is like a snowball rolling down hill on a cold day in Feb. This thing just keeps getting bigger and bigger and bigger. Its our group and our libray. And that's why we're the best. There has been talk on the BBS as to who is king of this or that. I think the Chicago TI User Group is the KING of user groups. Here we are, 6 years old, over 500 strong and still forging ahead. I take my hat off to all you wise and wonderful people. I especially take my hat off to John Behnke for the fine job he's done running this library. This is pretty hard work. You may be taking the summer off, John, but I know how hard you're gonna work when you get back. (A well deserved break)

Anywho,(and I spelled that who) let's get on with the meat of this article. I'd like to start off by mentioning the 4 winners of our '86 programming contest. First place went to Oscar Britana with FLEX-FILE. This program is as it states. A flexable file manager. The user creates their own files with 1 to 10 fields. The whole thing is then stored to disk. Changes can be made quite easily. Also, there's the option to dump to a printer. Congratulations, Oscar.

Second place went to John Behnke for his updated version of PINBALL CONSTRUCTION. Boy this is a good one. One can sit all day and play pinball. If you don't like the layout of the board, change it. The sound and graphics are really nice.

Third place went to Rich Klein of Basically Yours fame. Here's a real good one. How many times have you lost a program by accidently hitting the quit key? Well, no more. Not if you have Rich's QUITSAFE. This program resides in memory unnoticed. It just sits there waiting for you to hit the Quit key. As soon as the key is hit, it asks you if you really wanted to quit. If any key other then "Y" is pushed, the program resumes.

I can't believe the talent in this group. First place in the childrens division went to a 6 year old. Eric Scott Helman wrote MARCH. In this one, you use the arrow keys to guide a stegosaurus thru a jungle without hitting any obstacles. Very good, Eric. And Congratulations to you.

I know the judges had a real hard time this year. All the entries were real good. Jim McCulloch, Jim Derk, John Birdwell ('ey to John) and Clint Pulley all had a hand in SCLOAD version 4. This is a loader for the Super Cart. Once loaded, your SC will display 2 pages of menues. Choose the program you wish to run and SC will go to the designated drive and run it.

Dan Iacovelli gave us 2 new programs. A 2 player All Star Baseball game and Superman 2. With Baseball, you control the running, hitting, throwing and the fielding. Just like regular baseball. This one will keep your fingers busy. Superman 2 is something like the movie. Zod, Ursa Nom are at it again. You, as superman, must capture all 3 and save New York before the atomic sun destroys it.

How's your comet knowledge? Well, Christine Helman wants to know. In her program, COMET, Chris asks as many as 50 questions concerning comets. Boy did I learn a lot from this one. Go ahead, ask me something.

Dan Gronowski gave us PERSONAL LIBRARY PRINTER. I really liked the way this one starts off. I'm not gonna tell you. You'll have to buy it to see. Anyway, this one is really nice. It lets you type in the names of all your modules or files under specific headings. It then sorts them alphabetically and lists them in a 2 column format. A very nice piece of work, Dan.

Here's a good one. I never knew pilots had to do so much till I saw Philip Holmes' FLIGHT PLANNER. This is an actual working log for pilots. This program will produce a data base of flying routes along with flight info. The data is saved to disk and printed out. A lot of hard work went into this one. Check it out.

John Hedstrom has really been working hard. John's decided that TI missed the boat with their frequency listing. After listening to John's program, I'll have to agree. John has taken the musical notes and produced frequencies much closer then TI. The result is fantastic. Check out John's TI rendition of Bach's JESU.

Here's a niffty program. It's a cataloger and a loader. So, obviously, Ed Svizzero decided to call it the CATALOADER. The initial prompt asks if you wish to load or catalog. The load feature will list out all the program files. One then selects the corresponding # and it's loaded. The cataloger asks if you want a hard copy. Then which drive and if you wish to compare. Once the disk is cataloged, you can 1) go to loader. 2) Redo catalog. 3) Delete files or 4) Print D/V files to screen or printer. A very fine program. Thanks, Ed.

We have a very talented and I might add patient member in Alabama. Ollie Hebert submitted a rather large amount of programs even though we kept him waiting a long time for his software order. Again, sorry for the serious delay. Thank you for all the programs. Ollie gave us a lot of programming charts. they are:

24 place hex to dec. conversions A 32 pg. listing of all 1024 possible 8x8 symmetrical characters w/codes A 1 pg. chart of ASCII codes in dec. and hex for keyboard in key unit 5. 3 pgs. of hex codes by character sets. It also leaves room for sketches. A 1 pg. listing of condensed format codes in dec hex. 1 pg. listing of disk track and sector arrangement in dec hex. And that's not all. Ollie has also given us:
JOYST/TEST - Test both J sticks and Fire button
LOAD - A screen program selection menu. LOADI
to a 3 screen load menu w/ up to 51 files CATAI
drives 1-4. Will show 12 files at a time. QUICKCAT - Single drive cat. to screen only. Will make up to 32 screens. RANDSYMCHR - Puts 12 random Sym. chars. on screen with their hex codes. READDISFIL - A file reader for D/V or D/F files. Puts to scrn or printer SPELLSKILL - Spelling practice. This one is for testing knowledge. SPIRALS - Graphic demo. Put repeating spirals on screen. All 28 sprites. STARS - Graphic demo. Puts multiple stars on screen. All 28 sprites.

Ollie has also included the source codes for some of his programs. Again, THANK YOU very much for you wonderful contribution.

Now for the FAIRWARE division. Nick Iacovelli Jr. submitted this one to the programming contest. He has since decided to release it as fairware. SUPERTRANS is a whole disk transfer program. It will send 90 sectors at a time, then dump them to disk.

Bill Harms, one of our members from California sent us FAS-TRAN. This is a super fast checkbook manager. With this one, I don't think my wife'll ever mess the checkbook up again. Seriously, this is super. It gives a complete list of every check, where it went and how much was paid out. Then it'll give you monthly and annual totals. It will even put bills into categories. It's great. Thanks, Bill.

Roger L. Wilson has come up with a good one. I've needed this for a long time. ENVELOPE ADDRESSER version 2.5. This one is already set up to address long or short envelopes. Just stick the envelope in, type the mailing address and you're all set.

These next programs are described in the Fairware library article. I'll just mention their names here so you'll know which are the newer programs. Recently added to the library are:
40 COLUMN, DISK + AID, FILE READER, FORTH DRAW, MASSCOPY, MEMORY MANIPULATOR, PRBASE, TRIO-SOFT, WYTERM.

FAIRWARE LIBRARY
JULY 1986

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40 COLUMN:
A 40 column text mode program by Brad Snyder. This program will put the 99/4A into a 40 column text command mode. Some new commands are added. They are: CALL LINK("TEXT",FOR,BACK), CALL LINK ("CLS"), CALL LINK("POKE",LOCATION,STRING$), CALL LINK("NORM") CALL LINK("ACCEPT",LOC,SIZE,CK$,RET$,KEYVAL). This pgm. runs from E/A basic and requires the E/A disk with the BSCSUP file on it. Limited docs. are included. ($2.00)

ALPHANUM DELIGHT:
A delightfully brilliant childrens game by John Taylor. Not just a game but a learning tool. Choose to learn upper or lower case letters or numbers. Then choose random or sequential order. Top it off with a choice of learning speed and you have a fantastic learning game. A number or letter goes up a tower and starts to fall. You must hit the correct letter or num. to get the little guy to push the cart and catch the falling character. The character is loaded into a cannon and shot into space when you hit the correct key. Includes Speech. Nice graphics. Xbasic ($2.00)

ASSAULT THE CITY:
A Tunnels of Doom adventure game by our own John Behnke. You and another party have been asked to find a path through an impassable mountain. The other party is lost and believed to have been captured . You must free them before they are all killed. Be on your toes for this one. Choose number of floors and level of difficulty. Requires TOD cartridge. ($2.00)

C99 version 1 2:
Small "c" by Clint Pulley. One of the newest languages out for the TI. c99 is a compiler that creates assembly source code. Once these codes are assembled into object code, you have a program that runs about 2.5 times faster then Forth. c99 loads with E/A option 3. Version 1 is DSSD only. ($2.00) Version 2 is a 2 disk set. ($3.00)

CANONBALL CHESS:
As ruler of a small kingdom, you must fight with another small kingdom over water rights. Try to capture their flag, gold, ammo or cannons to win. You'll love the graphics. Run in Xbasic ($2.00)

CATALOG LIBRARY version 1.4.0:
A beautiful disk cataloger by Marty Knoll. Program allows you to catalog almost 1000 filenames on a single disk. Program features such things as List or Print program names, List or Print disk names, Search for and Display or Print program names, etc. Loads with E/A option 3. ($2.00)

DIRECTOR version 4 DISK LABELER :
2 Nicely written programs by Ron Rutledge. Both are Fairware and combine to make a super program. Director was designed to keep track of disks and disk files. This program generates a list of catalogs 3 in a row across a page. Features ADD, DELETE, SEARCH Disk labeler can work in conjunction with Director to make labels for your disks or used separately to make individual labels. The labels on all the Fairware disks in the library were made with this labeler. Auto loads in Xbasic. ($3.00)

DIRECTOR 99 v 1.2, REPORT 99 UPDATE 99 :
3 excellent programs by Robert Neal Ed Burt. Director 99 is a cataloging pgm. for disks, files, cartridges and system disks with accompanying descriptions. This program can catalog from 550 to 1400 records depending on storage media.(SS/SD or DS/SD) Report 99 works with Director 99 to provide several types of reports on your library. It can print disks, pgms. or both. The various reports look impressive. Update 99 is yet another enhancement to an already great program. Use this feature to edit the Director Data disk. All work in Xbasic. ($4.00)

DISK + AID version 3.0
Sector editor by Don Thomson. This program is one of the best and easiest to use disk repair utilities I've seen. It has over 30 single keystroke commands. It's really an educational utility on the TI DOS. Requires XB,MM or E/A, 32K and drive. ($2.00)

DISK MASTER version 1.6:
A great DM program written by our own Todd Kaplan. Todd's program features options like protecting and unprotecting an entire disk, copying all or just a few files from a disk, color changes and the ability to recover a deleted file. Try it,you'll like it. Loads with E/A option 5. ($2.00)

DM1000 version 2.2, 2.3 3.1:
A very good disk manager program by Bruce Caron. This program is on the order of the Corcomp DM. DM1000 has all the features a DM should have plus. Version 3.1 was modified by Ralph Romans and allows running Program Image Xbasic VDP and E/A VDP files. Load with E/A option 5. ($2.00)

FASTERM version 1.16pc:
Communications software by Paul Charlton. Features Xmodem, TE2 and Xon/Xoff transfers. Program allows user to change baud rate (110-19,200),duplex , parity and catalog drive. This is one of the best terminal programs around. Docs are included. Loads with

E/A option 5 ($2.00)

FILE READER 1002 :
Steve Patterson of the well known New Horizon User Group wrote this very nice program. It is designed to load and read files from a disk. While loading the file, it converts the text to true lower case. Then it takes the text and scrolls it across the screen. Runs in Xbasic. ($2.00)

FORTH DRAW version 2.5:
This is a real nice Wycove Forth drawing program by Barry Comer. Program includes speech to let you know what you are doing and what color you are using. The program also features load and save to disk, color changes, dump to printer and line drawing (K-Draw), erase lines or pixels, even the entire screen. Docs are included. Loads with XB or E/A option 5. ($2.00)

FUNLWRITER version 3.1:
An Xbasic version of TI-Writer from the "boys down under", Tony and Will McGovern. Program has all the features of the cartridge version plus true descenders on lower case. Also included is a disk manager. Program auto-loads in Xbasic. ($2.00)

GARY COX :
3 Fairware programs by Gary Cox. You get a disk indexer which sets up a complete directory of all your files. Lawnmower is a nice little game where you try to cut the grass while being chased by a biting dog. Weather is a program for those interested in setting up a weather station at home. The 3rd program is a Database system which is fully documented and easy to use. The indexer auto-loads from Xbasic and allows running the other programs. ($2.00)

J P GRAPHICS :
A great TI Forth drawing program written by J.P.Morin. This version has music and a demo. Docs. are included to explain all the nice features this program contains. Color changes, lines, circles, load and save to disk, dump to printer are a few of the features this program offers. And because it's written in Forth, it runs very fast. One word of warning, this version comes on 1 DS/SD disk only. A 2 disk version SS/SD is out and I will have it soon. Auto-loads with Xbasic. DS/SD ($2.00)

MASSCOPY version 3.0 :
Here's a super nice copying program. It was written by Stephen Lawless. This pgm. gives you the option to make 2 copies at the same time if you have 3 drives. If you have the foundation 128K memory card, it will load info. onto it to make copying even quicker. It even offers 2 modes of copy, sector to sector, or Bit Map. This one's really nice for multiple copying. E/A #3 ($2.00)

MASSTRANSFER version 3.5:
Communication software by our own Stu Olson (now residing in AZ.) This is a full-featured terminal program which allows the user to transfer an entire disk automatically. Also included is a program to make an auto-dial phone directory. This is a real nice feature if you have an auto-dial modem. Program comes complete with well-written documentation. Auto-loads with Xbasic. ($2.00)

MCCULLOCHS :
A set of programs by our own Jim McCulloch. Disk includes 2 stock programs. One is called PORTFOLIO and the other STOCK. These 2 programs can be used to keep track of your stocks and bonds. A 3rd. program called RISKO will ask you questions about yourself and then estimate your chances of having a heart attack. Also included on the disk are the docs. and schematics for adding 32K memory to your console. ($2.00)

MEMORY MANIPULATOR version 1.0:
Another outstanding program by Don Thomson. This is a powerful assembly language program which allows the user to search, move, compare or print any memory in the 99/4A. Loads with E/A option 3 (DSK1.MEMORY-0). Docs. are included on the disk. ($2.00)

NEATLISTER :
Danny Michael wrote this nifty little program. This program will list out all the variables in your program and tell you which line numbers they are found in. A very nice tool for the programmer. Loads with CALL INIT :: CALL LOAD("DSK1.NEATLIST")
All docs. are included. ($2.00)

PILOT 99 :
The TI version of Pilot by the late Tom Weithofer. PILOT 99 is a compiled version of Pilot that runs much much faster. Commands are entered with 1 or 2 letters. Pilot 99 allows the use of text, graphics, color, sound, sprites and most all Xbasic features. The docs. are quite extensive and well written. Loads with E/A option 3. This is a 2 disk set. ($3.00)

PRBASE:
A disk-based fast access management system by William Warren. With it you may design your own data screens, build up to 5 customized tabular report formats or customized mailing labels. This one is a winner. Includes extensive documentation. Xbasic ($2.00)

SBUG :
A very very good assembly language debugger. This program will allow the user to step thru a program and execute each instruction one at a time. Loads with Xbasic or E/A. ($2.00)

SCREENDUMP :
Another fine program by Danny Michael. This is one of the better screendump programs. This one will allow the user to dump a screen in one of 2 sizes. One also has the option to dump vertically or horizontally. Also included is an inverse dump feature. Screendump will work as part of your program or with an interrupt switch. As usual, Danny has included some well written docs. Loads with Xbasic or E/A. ($2.00)

SPRITE BUILDER version 4:
Here's one for everybody. The amature and the veteran alike will enjoy this program by, who else, John E. Taylor. John has done it again. This well-written program makes sprite building as easy as ABC. Sprites are built in double size to make it easier to see. Everything is on the screen so you can see what you're doing. Build 1 or build 4 and merge them together. Program even includes speech to help you out. Xbasic. ($2.00)

SUPERTRANS:
A 1986 entry into the Chicago User Group's programming contest. Nick Iacovelli Jr. has decided to place this one into Fairware. Boy is it quick. At 1200 baud, Nick and I transfered an entire DS/SD 718 sector disk in just under 28 minutes. This baby whips out 90 sectors at a crack then dumps them to disk. Options include Duplex change, 300/1200 baud, 1-3 drives and RS232 ports 1 or 2. Requires E/A. ($2.00)

TE2/1200++ :
TE2 cartridge enhancer by Barry Dieser. Program requires TE2, E/A and Widget (opt). This program will allow the user to use the TE2 cartridge at 1200 baud. It will not affect any features of the TE2 protocols. If you do not own a widget, you can defeat the re-set circuit by placing a piece of tape over pin 1 of the TE2 cart. Pin 1 is on the bottom right as you look at the connector end. ($2.00)

TI-REWRITE :
Instructions and hints for TI-Writer by Dick Altman. Dick has more or less broken the TI-Writer manual down into 5 pages. Also included on the disk are 2 of the greatest graphic programs around. Load program with TI-Writer Formatter. ($2.00)

TI-WRITER MULTIPLAN UPDATE :
This disk contains the updates made for the 2 fore mentioned cartridge programs. Features include lower descenders and faster running time. Use this disk in place of the cartridge program disk. ($2.00)

TRIO-SOFT :
This one is by Trio Software. This program will allow the user to make a disk jacket. The front of the jacket lists the disk catalog and a 56 character comment on each filename. These jackets have been used in the past to describe some of the disks in the Fairware library. Auto loads in Xbasic. ($2.00)

TURBO version 1:
This is a really nice track copier by Barry Boone. This program copies 10 tracks at a time. It will copy any disk in 4 passes. Turbo will not work on the Myarc disk controller. It will auto-load in Xbasic. ($2.00)

TURBO version 2:
Written in assembly by Barry Boone, this is the fastest copying program around. It will not work on the Myarc card. 2 drives are required. Load with E/A option 3. ($2.00)

WYTERM :
This is a Wycove Forth Terminal program written by Tim MacEachern. This program put the computer in a 64 column text mode. Options include an auto/dialer with a directory, 150,300,600 or 1200 baud, change parity, data bits, stop bits, pulse or tone dialing. The only thing I must say is if you're not used to 64 col., you can get messed up. I used it and tried to leave a message. At first it's really hard to tell where the 40 col mark is. This is a text only terminal program. No up/downloading, but it gives you a good idea what can be done with Wycove Forth. Load with E/A #5 ($2.00)

NOTE: All orders for cassettes from the library should be directed to Hal Shanafield Jr. at 312-864-8644.

TI FAIRE UPDATE

FROM THE FAIRE CHAIRWOMAN

— Sandy Bartels —

This year's Faire has taken off again with a big bang. The letters that are sent to the vendors have been mailed, and as of now we have nine booths that have been reserved. The current list of vendors are as follows: COMPETITION COMPUTER PRODUCTS, MICROFORMAT, TIGERCUB SOFTWARE, DATABIOTICS, RYTE DATA, HORIZON COMPUTER, DATA SYSTEMS, HUNTER ELECTRONICS, L. L. CONNOR ENT. COMPETITION COMPUTERS and C & G DRIVES. The letters notifying the users groups in the USA & Canada will go out within the next month.

As usual this year I have a wonderful group of people that are helping me with the Faire. Dave Wakely & Sam Pincus are taking care of arranging the guest speakers, and problems that come up in the months ahead. Mike Chappel is handling the publicity for the Faire. Grant Schmalgemeier is responsible for transportation information for out of town visitors. Tom Kaar is taking room reservations for vendors, and visiting user groups. Hank Ellerman is making sure there is enough computer equipment available at the Faire to meet everyone's needs. Len & Lorie Rovner will be taking up positions at the front door to the Faire, and are prepared to do battle with tickets and hand stamps.

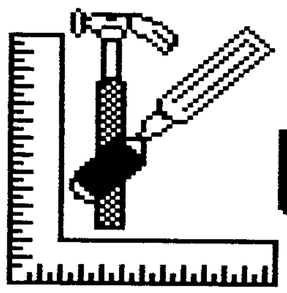
Dave has promised me that we will have some very interesting speakers, and seminars during the Faire, I'll have more information on presentations next month.

I'm looking for a couple people who have Vans that are willing to come to the Faire early in the morning, in order to help transport vendor's equipment from their nearby motel, to the college. If anyone is willing to help out with their Van, please give me a call at 859-3850 during the day, or drop me a note at our group P.O. Box #578341 Chicago, IL. 60657.

THANK YOU for helping,

Sandy Bartels

1986 Faire Chairman



HARD TIMES

Al Stump

This is the hardware article, but I'm afraid it is not the 32K console memory that every one wanted. That will take awhile longer to put together. In the mean time, I got tired of my TI joysticks. The next few paragraphs will be about my solution to the problem of the joystick dilema.

Never fear, the 32K project is far from dead, and should rear its head in the next issue, two issues at the latest. Also in the works are a SUPER-CART, light pen and other goodies.

The TI joysticks are not only connected with a different pin layout from the other more common brands, but they are the stiffest, most cumbersome atrocity in the 'joystick' family. The obvious solution is to replace them. If you can find a converter...If has caused nations to fall. Not only that, but a converter adds another location for problems like loose connections. There is a way. This way is only applicable to switch activated joysticks, not the analog variety. Hold on to your socks, here it comes.

Lets learn about the joystick port so that we know what we are doing. Technically it is a 9 pin subminiature "D" connector.Hmmmm 9 pins for two joysticks with ten positions between them? Very interesting. How do they do it? TI was very creative, they even ended up with two spare pins by their approach. Here is a quick diagram.

```
HHHHHHHHHHHHH
HHH FIRE HHH
HHHHHHHHHHHHH

      N


W<-------->E


      U
      S
```


The four directions and fire are connected in parallel, this means that they look alike to the computer. That is five pins. Now if we take the common pin or strobe as TI did and make it go negative (from 4.3 volts to 0 volts) during a CALL JOYST(N,X,Y) where N is 1 or 2 (because we have a strobe for each)... Ahhhh that must be the answer. We have two strobes, 1 for joystick 1, and 2 for joystick 2. That will work. Let's see how they are set up.

PIN#	CONNECTION
1	N/C
2	STROBE 2
3	NORTH
4	FIRE
5	WEST
6	N/C
7	STROBE 1
8	SOUTH
9	EAST

Now that we know how they work, it should be easy to cut off the old end and hook the wires to the connector (RADIO SHACK #276-1538 $2.49). This is a solder type connector and heat shrink tubing should be used to eliminate shorts and be very neat with the wiring. Wire both joysticks together as the list indicates. When finished you should have 2 pins with no connection, 2 pins with 1 wire and 5 pins with 2 wires.

Next get a hood(RADIO SHACK #276-1539 $1.99), and where the plastic forms a lip to secure the metal flange of the connector, take a razor saw (or similar tool) and cut off the lip. This step is absolutely necessary, because the lip will keep the connector from seating properly. The connector cover can be held in place against the metal flange with 2 short 2-56 screws and nuts.

Plug in your new joysticks and load up your favorite arcade game and away we goooooooooooooo.....

BULLETINS:

Thanks to BUZZ KRANTZ for the artwork on the cover and in the headings.

Regular SIGS should resume this month after the meeting. Check with the SIG leaders or the BBS for confirmation.

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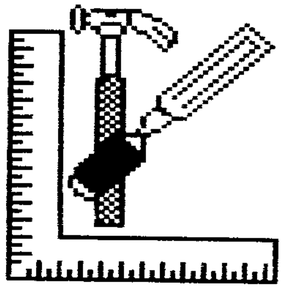

NOT HARD TIMES

Al Stump

Well folks, another newsletter is in your grimy digits and it is time to go to work. Never fear , there is a surprise in store for you. This particular article is not on a hardware topic. The hardware topic is comming up further back or forward in this issue. The title NOT HARDTIMES comes from the fact that this article is on the subject of the FUNNELWRITER files, and how to maximize on their versatility.

Now let me qualify this. If you have SS/SD drives, you will find that your disk is full before the menu has been used up. On the other hand if you have DS/SD or DS/DD drives you will have plenty of room on your disk. What I want to discuss now are ways of utilizing this space.

Step 1. Get a copy of the FUNNEL WRITER 3.2 files. Now replace the MGR1 and MGR2 files with the older revision 2.3 files. Let's play it safe and make a back up copy.

Step 2. Determine exactly which files you want to use. Do not exceed the storage capacity of your disk.

Step 3. Set up and check out the basic FUNNEL WRITER. If you do not want to load FORTH or DPatch then follow the next instructions carefully.

A. Go to the TI title screen, insert the FUNNEL WRITER disk in drive 1. Depress <2> on the keyboard twice to start the auto load process, hold down the <fctn> and <4> keys simultaneously. This will cause a break at line 100 on the loader. Now list the program. UNDER NO CIRCUMSTANCES RESEQUENCE THE LOADER. You will notice that only options 4-8 are shown. The rest of the program calls are imbedded in the assembly routine. We are now going to edit the loader by typing in the desired line number and then depress <fctn> <X>. This brings down the line we wish to edit with the cursor at the beginning of the line. Remember after editing each line to depress<enter>.

B. Now to edit out Dpatch and TI-FORTH. In lines 190 and 200, replace "DPatch" and "TI-FORTH" with "...". That changed the utility menu screen. Now we have to edit the lines that call the programs. On lines 270 and 280, we want to replace everything in front of ! OPTION #7 or 8 with RUN "DSK1.LOAD". Lines 270 and 280 now look just like line 250.

Step 4. Check out our work so far. Type in SAVE DSK1.LOAD to save the edited loader. Now RUN the loader. The menu should appear as before except that when we select UTILITY the screen will have (...) instead of program names for OPTIONS 4-8. If everything is OK so far we can proceed. If not go back and see where you went wrong.

Step 5. Let's check our desired programs to see if they will be copatible with the FUNNELWRITER loaders. Insert the FUNNELWRITER disk into drive 1 and go to the UTILITY menu. Select DM1000.(If you have a 1 drive system you will have to use the TI DISK MANAGER for these steps, and you will have to use the back up FUNNELWRITER disk to transfer the files onto instead of drive 2.) Now we will transfer all the files that we selected as desireable onto the appropiate disk. If you have a 2 drive system use a blank formatted disk in drive 2 prior to starting the transfer process.(For those of you with a 1 drive system, set your system for single disk processing.) Transfer all the files to the appropiate destination disk as dictated by your system configuration.

Step 6. Quit the DM1000 or TI DISK MANAGER and go back to the title screen. Press <2> twice to load the FUNNELWRITER disk again. This time when we get to the FUNNELWRITER menu, select UTILITIES as before, when the UTILITY screen comes up, we want to select #9. Now we can enter the file name of the file we want to verify as compatible with the loaders in FUNNELWRITER. Make a list of the file names and the environment within which we load them with. From my own direct observation 3 works well with most E/A program files and 4 works well with most D/F 80 files. Select the environment as suggested and see if the program loads properly. Do not worry about Extended Basic programs at this point. Go through all the selected programs until they have all been verified. Make sure that you keep your list accurate. It will be a big timesaver later.

Step 7. Once we have verified that all the files will load properly and recorded the necessary environment, we can step along to setting up the menus. Putting a little thought into the next phase can be very beneficial. Which programs will you use most frequently? That is the question. Once identified as high usage programs you will want to put them in the first-level menu. But wait a minute there are only 5 selections available! So pick your 4 highest usage programs. You'll see why in a moment. If you are on a 2 drive system you have another chore to perform. That is to transfer the 4 files to the FUNNELWRITER disk. Next we want to break into the loader again as in 3.A above. In fact lets list it to the printer so we can doodle(I doodle to keep things straight in my head.) We can now write in the names of the programs for our first 4 choices by the lines that will print them on the screen. These are lines 160, 170, 180 and 190. That leaves 200 for SUB-MENU. We might as well put that in now also. Since we have broken into the loader and have our notes (doodles), we might as well edit the screen display portion of the loader. So put the names into 160-190, keeping the length to 10 or fewer characters. Put SUB-MENU into 200, also. Save the file to a clean formated disk and then RUN it. Does the screen look satisfactory? If so, quit back to the title screen and put our just-made copy into drive 1 and break into it as it tries to load. (Naturally, if you don't like the screen, change to suit.) Now we can save the satisfactory screen to our FUNNELWRITER disk. All set? Let's move on.

Step 8. We are now ready to edit lines 240-280 (These lines cause the program to be loaded.) Write in the file names by the option number that matches the title on the screen display. If the program is Extended Basic, then all you have to do is insert the name in place of LOAD in the RUN "DSK1.LOAD" ; if the name requires more than 4 characters, use the INSERT <fctn><2> to add in the additional characters. The next bit of work will require the list of load environments that we compiled earlier, so dig it out of the mess and we can stop goofing around. Remember the

way lines 270 and 280 looked before we removed the DPatch and TI-FORTH? Well that's the way they will look when we finish.Here's the punch line:

xxx A$="DSK1.NAME" :: K=y :: GOTO 290 ! OPTION #?

xxx= line number

NAME= program name to be called

y= the number for the load environment 3=PROGRAM 4=D/F 80 files

Step 9. There is only option 8 left, and this is where we will put our SUBMENU. The question is what SUBMENU? The answer is, the SUBMENU I am submitting as a separate upload for this issue which you may enter on your own system. It is only an EXTENDED BASIC loader, but as option 8 you can call other loaders for E/A programs. There is one hitch to this, and that is, the loaders cannot be named LOAD. They must each have their own distinct name; i.e. LDMASS or some other name. They MUST BE RENAMED BEFORE PUTTING THEM ON THE FUNNELWRITER DISK. That is very important. Put the names you want for the menu in the data statement at line 1000, keeping the "," in between the names. JJst replace the program 1-6 in the statement now. Then put the program name in the RUN "DSK1.PROGRAMx" lines, from 200-250. Once you have that done, SAVE this program on the disk as SUBMENU. It can now be called from option 8. I also have a GPL SIMULATOR LOADER that I will upload to local boards. This one will allow you to directly load E/A #5 programs without individual loaders. You may replace another option with this loader giving it a different name from SUBMENU. That will give even more versatility to your disk. Just follow the information in the disk when you list it out. It needs name and file name in data statements.

What have we accomplished with all this work? Well, you know that I'm not a total dummy about software but we have done more than that. You now have in your worn-to-a-frazzle fingers a disk that when loaded into your system, will give you virtually the same versatility as SUPER-CART. We did it without soldering or burning our fingers or any other traumatic situations. It takes a little longer and requires a couple of additional keystrokes, but it was cheaper and it does the job. I use just one disk for approximately 90% of my system work. Here's how. I have 3 communications programs, 2 copiers, 2 debuggers, 1 sector editor, 2 disassemblers, and DCOPY on one disk. This does not include the EDITOR and FORMATTER. That is a lot of computing power to have available at a 3-4 keystroke accessibility. Try it.You'll love it until you get your SUPER-CART.

```
100 REM SUB MENU PROGRAM by
A.W. STUMP 7/86
110 CALL CLEAR :: DISPLAY AT
(2,12):"SUB MENU"
120 FOR I=4 TO 18 STEP 2 ::
READ M$ :: DISPLAY AT(I,12):
M$ :: NEXT I
130 DISPLAY AT(I,13):"=SELEC
TION"
140 CALL KEY(0,K,S):: IF S=0
 THEN 140 :: IF (K<49)OR(K>5
4)THEN 140
150 K=K-48 :: ON K GOTO 200,
210,220,230,240,250
200 RUN "DSK1.PROGRAM1"
210 RUN "DSK1.PROGRAM2"
220 RUN "DSK1.PROGRAM3"
230 RUN "DSK1.PROGRAM4"
240 RUN "DSK1.PROGRAM5"
250 RUN "DSK1.PROGRAM6"
1000 DATA ========,CHOICES,1
=PRGM1,2=PRGM2,3=PRGM3,4=PRG
M4,5=PRGM5,6=PRGM6
```


If you have any problems, leave me a message on the USER GROUP BBS 312-966-2342 , my number is 330. Have fun and look for my other article somewhere in between these hallowed covers.....AWS.

LOTS MORE AHEAD YALL!

ASSEMBLY WORKSHOP

Nick Iacovelli

ASSEMBLY LANGUAGE SPEECH

This article is being written for your information and to give my editor and proofreader (I guess this makes me a real writer) RICK KLEIN something to do. I wonder if we will see some editor's notes pop up in the article every so often. I also want to give him a chance to fix the error that he left in my last article, the word was manipulation. Did he spell it right this time? (ED. NOTE: Yup)

SPEECH ROUTINES
TI uses the commands SPCHRD + SPCHWT to read and write to the speech unit. They also tell us when executing speech you cannot use the 32K CARD. That means the program has to branch to a routine in scratch pad ram. There are 2 ways to put an assembly program in scratch pad ram.

BOTH PROGRAMS USE SCRATCHPAD AT >8328

TI SHOWS US THIS WAY

```
   REF SPCHRD
SPDATA EQU  >8328
READIT EQU  >8330
CODE   MOVB @SPCHRD,@SPDATA
```

MY WAY
PUT THIS AT THE END OF YOUR ASSEMBLY

```
AORG   >8328
SPDATA DATA 0
```

```
        NOP                                  |  READIT MOVB @SPCHRD,@SPDATA
        NOP                                  |         NOP
        NOP                                  |         NOP
        RT                                   |         NOP
CLEN    EQU  $-CODE                          |         RT
                                             |
START   LI   R1,READIT   This routine        |
        LI   R2,CODE     puts the above      |  This avoids having to put in a
        LI   R3,CLEN     program on the      |  routine to put the code on the
ST2     MOV  *R2+,*R1+   16 bit bus          |  16 bit bus
        DECT R3                              |
        JH   ST2                             |
                                             |
```

You use this by doing a BL @READIT every time you want to read a byte. This routine is only used when you want to read a byte from the speech unit.

When writing to the speech unit, TI tells us to provide delays of 12 and 42 microseconds. This is done by the following codes:

```
DLY12  NOP
       NOP
       RT
DLY42  LI  R1,10
DLY42A DEC R1
       JNE DL42A
       RT
```

The 12ms delay is used to provide the delay for the read address commands. The command is used as follows:

```
H10  BYTE >10
     MOVB @H10,@SPCHWT
     BL   @DLY12
```

This command is used to read a byte from the speech unit.

The 42ms delay is used for the speak commands. The commands for speaking data are >50 and >60.

The command is used as follows:

```
H50  BYTE >50
     MOVB @H50,@SPCHWT
     BL   @DLY42
```

This causes the speech unit to say what is located in the address loaded. The >60 command is used to say data that you have constructed. I would like to know how to construct this data. If you have the TMS 5200 SPEECH DATA MANUAL, please send me a copy so I can write a future article on how to do it.

MAIL IT TO:

NICK IACOVELLI JR
1411 N. 36TH
MELROSE PARK IL. 60160

WHEN LOADING SPEECH ADDRESS WITH A WORD TO BE SPOKEN, IT MUST BE FROM THE SPEECH VOCABULARY ON PAGE 422-427 IN THE EA MANUAL.

ANOTHER COMMAND, THE >4X COMMAND, IS USED TO LOAD THE SPEECH UNIT WITH THE ROM WORD THAT IS BUILT IN.

1.Get an address out of the appendix. The word "COMMAND" is at >1F1A
2.Load bits in nibbles (4 bits) to the speech unit least significant nibble first after adding >4x to the it.

Using the above word the bytes loaded are:

>4A
>41
>4F
>41
>40 must always be the last byte

THE FOLLOWING PROGRAM WILL SPEAK THE WORD 'COMMAND'

```
      DEF START
      REF SPCHWT,SPCHRD

PHROM DATA >0000
H50   BYTE >50
HAA   BYTE >AA
H8    BYTE >80
      EVEN
START  LI   R0,>4A00          NIBBLE A
       MOVB R0,@SPCHWT
       BL   @DLY12
       LI   R0,>4100          NIBBLE 1
       MOVB R0,@SPCHWT
       BL   @DLY12
       LI   R0,>4F00          NIBBLE F
       MOVB R0,@SPCHWT
       BL   @DLY12
       LI   R0,>4100          NIBBLE 1
       MOVB R0,@SPCHWT
       BL   @DLY12
       LI   R0,>4000          LAST BYTE NIBBLE 0
       MOVB R0,@SPCHWT
       BL   @DLY12             TOTAL ADDRESS LOAD 1F1A NOW LOAD >50 AND
       MOVB @H50,@SPCHWT    WILL SPEAK.
WAIT   BL   @READIT            OUR DELAY ON THE 16 BIT BUS
       MOV  @SPDATA,R0
       COC  @H8,R0           STATUS CHECK TO SEE IF SPEECH IS DONE
       JEQ  WAIT              IF NOT READ SPEECH DATA AGAIN
       JMP  START
       AORG >8328
SPDATA DATA 0
READIT MOVB @SPCHRD,@SPDATA
       NOP
       NOP
       NOP
       RT
```

```
DLY12  NOP
       NOP
       RT
DLY42  LI   R1,10
DLY42A DEC  R1
       JNE  DLY42A
       RT
       END
```

NOTICE THE CHECK TO SEE IF SPEECH WAS DONE TALKING (COC @H8,R0). IF THIS CHECK WAS NOT INCLUDED, THE MACHINE MAY LOCK UP.

TI also tells you to check to see if the speech unit is attached. To do this, load the address the same as we did for the word command, but use the address >0000. Replace the MOVB @B50,@SPCHWT with a MOVB @B10,@SPCHWT followed by a delay (see above). After the BL @READIT do a CB @SPDATA,@HAA. If it is equal, the speech synthesizer is attached.

REMEMBER TO LOOK FOR THE 5200 SPEECH DATA MANUAL FOR ME SO I CAN WRITE THE SECOND ARTICLE.

NICK IACOVELLI JR

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ASSEMBLY FILE HANDLING

Assembly file handling is not as bad as it looks.If you have a good understanding of basic file handling you can do it in assembly.

In basic when we want to open a file we do a OPEN #1:"DSK2.TEST",DISPLAY, VARIABLE 80. In ASSEMBLY we have to set memory location to mean the same thing.I and TI calls this PDATA. This stands for PABDATA. The PABDATA consists of 10 BYTES and a file name.

The first byte is the operation you want to execute.(PRINT OPEN CLOSE INPUT
The second byte is broken up to tell us more about the file
The third byte is the address in VDP where the data you want to write to disk is stored.
The fourth byte is REC length 80 for DV80 FILES
The fifth byte is the number of characters you want to write to the disk or the number of bytes read on a input.
The 6 and 7 byte is record number for relative files.
The 8 byte is used for cassette to put prompts on the screen.
The 9 byte is the length of characters in the file name.
The 10 byte + is the filename "DSK2.TEST "

To do an Open move a 0 into the first byte of the PABDATA
To do a Close move a 1 into the first byte of the PABDATA
To do a Read move a 2 into the first byte of the PABDATA
To do a Write move a 3 into the first byte of the PABDATA
More commands are in the EA/MANUAL pages 291 to 300

The best way to show you how to write to a file in assembly is to show you how directly.I set up routines so all I have to do is BL @OPERATIONS for a

READ WRITE OPEN OR CLOSE.

FIRST THING I HAVE TO DO IS SET UP PABDATA.I will make it a DV80 file called TEST

LOOK AT PAGE 293 OF EA/MANUAL

```
PDATA BYTE 0     BYTE 0  NOT IMPORTANT NOW
      BYTE >10   BYTE 1  WORKS ON BITS  0123 4567
      BYTE >10   BYTE 2+3  VDP DATA    : 0001 0000
      BYTE >00             BUFFER USE      | ||||-file type sequential=0
                           VDP SPACE >1000 | |||  relative = 1
                                           | ||---mode of operation.00=update
      BYTE >50   BYTE 4 >50 FOR 80 LENGTH  | |----datatype 0=display |01=output
      BYTE >50   BYTE 5 >50 WRITE 80 CHAR. | |              1=internal|10=input
      BYTE >00   BYTE 6+ 7 = 0 NOT NEEDED  |-----record type 0=fixed |11=append
      BYTE >00             USE IN RELATIVE FILES            1=variable
      BYTE >00   BYTE 8 CASSETTE NOT USED
      BYTE >09   BYTE 9 LEN OF FILE
      TEXT 'DSK1.TEST'  FILE NAME
           123456789
```

I SET IT UP LIKE THIS IN MEMORY

```
                    PABBUF-Area where data to disk is stored for read or write
                      |    operations
                      |
PDATA  DATA >0010,>1000,>5050,>0000,>0009
       TEXT 'DSK1.TEST'
```

The PABDATA is now set up. All we have to do is move it to VDP and set the pointers. TI said we need 2 areas of memory in VDP. One is for the PDATA. The other is for the PABBUFF. The VDP location where read or write disk data is stored.

```
PAB    EQU >0F80 VDP LOCATION >0F80 FOR PDATA

PABBUF EQU >1000  BYTE 2+3 FOR THE DATA TO WRITTEN OR READ

STRIN  TEXT 'TI-WEST IS BEST' TEST STRING TO WRITE TO DISK IN BELOW PROGRAM

MYREG BSS  32        MY WORK SPACE FOR PROGRAM
        DEF START
        REF VSBW,VMBW

START  LWPI MYREG    LOAD MY WORK SPACE.
       LI R1,PDATA   I SET UP THE ROUTINES TO WORK OFF R1 FOR THE PABDATA WITH A
       BL @OPEN      BL.

       LI R0,PABBUF
       LI R1,STRIN   PUT MY STRING IN VDP
       LI R2,15
       BLWP @VMBW
       SWPB R2
       MOVB R2,@PDATA+5   SET UP SIZE OF STRING TO WRITE
```

```
       LI R1,PDATA    WRITE TO THE DISK
       BL @WRITE


       LI R1,PDATA    TO DO A READ
       BL @READ

       LI R0,PAB+5    GET THE SIZE OF THE STRING READ OUT OF VDP
       CLR R1
       BLWP @VSBW

       SWPB R1
       MOV R1,R2      MOVE THE SIZE INTO R2 AND READ THE STRING AND STORE IT IN
       LI R0,PABBUF   YOUR CPU MEMORY
       LI R1,STRIN
       BLWP @VMBW



       LI R1,PDATA
       BL @CLOSE
*************************
*      END OF PROGRAM   *
*************************
B0 BYTE >00
B1 BYTE >01
B2 BYTE >02
B3 BYTE >03
*************************
*     SUBROUTINES       *
*************************
OPEN     MOVB @B0,*R1       MOVE OPEN OPCODE TO PDATA
         JMP DSUB
*************************************************************************
CLOSE    MOVB @B1,*R1
         JMP DSUB           MOVE CLOSE OPCODE TO PDATA
*************************************************************************
READ     MOVB @B2,*R1
         JMP DSUB           MOV READ OPCODE TO PDATA
*************************************************************************
WRITE    MOVB @B3,*R1       MOV WRITE OPCODE TO PDATA
*************************************************************************
DSUB     LI R0,PAB
         LI R2,28       PUT THE PDATA INTO VDP PAB SPACE
         BLWP @VMBW
         LI R6,PAB+9
         MOV R6,@>8356   TI SAIS TO PUT THE LOCATION OF THE SIZE INTO >8356
         BLWP @DSRLNK    BRANCHES TO TI ROUTINES FOR DISK CONTROLLER.
         DATA 8
         RT
*********************************
```

There are different ways of doing this and they may be faster but this way is easier to keep track of the files as well as save memory.

All 'bout C

Stephan Meyers

FROM C TO SHINING C

Hello, there! I know you haven't seen anything from me in these pages for a while. Sorry, I know you all just can't get enough of me, <ahem>. Well, sort of.

Anyway, I have kind of put Forth aside, and I have been working in c99 lately. This is mostly because of a school project on the Commidore-Amiga I have been working on. One of the most interesting things I have done is a new circle routine on the Amiga. It is slightly related to my old TI-Forth routine, although the algorhythm has been significantly updated and is much faster. I am sure that this algorhythm has been used elsewhere, although as far as I am concerned, it is original, as I have never seen anything like it. In fact, I was so proud of it, I decided to convert it to c99 so that other users could benefit from it, I could find out just how compatible c99 is, and to fill some pages in the newsletter. Now on to a combination C lesson and a how-it-works for the program.

```
 /* Circle routines by Stephan Meyers. This original algorhythm was
    first developed on a Commidore-Amiga under the Lattice C compiler.
    converted 07JUL86
    Thanks to Hank Ellerman and Andy Jagusiak.
    Dedicated to Jennifer Dee. */
#include "dsk1.bitrtn"
#define FILL 1
#define NOFILL 0
/* draw a circle */
circle(x,y,radius,color,fillval)
  int x,y,radius,color,fillval;
  {
    int xdisp,ydisp,radsquare,ysquare;
    ydisp=radius;
    xdisp=0;
    radsquare=radius*radius;
    ysquare=radsquare;
    do
      {
        do
          {
            if (fillval)
              fill_reflect(x,y,xdisp,ydisp,color);
            else
              reflect(x,y,xdisp,ydisp,color);
            ++xdisp;
          }
        while(xdisp*xdisp+ysquare-radsquare<radius);
        ysquare=(--ydisp)*ydisp;
      }
    while(ydisp>=xdisp);
```

```
  }
/* filled reflection */
fill_reflect(x,y,xdisp,ydisp,color)
  int x,y,xdisp,ydisp,color;
  {
    line(x+xdisp,y+ydisp,x-xdisp,y+ydisp,color);
    line(x+xdisp,y-ydisp,x-xdisp,y-ydisp,color);
    line(x+ydisp,y+xdisp,x-ydisp,y+xdisp,color);
    line(x+ydisp,y-xdisp,x-ydisp,y-xdisp,color);
  }
/* hollow reflection */
reflect(x,y,xdisp,ydisp,color)
  int x,y,xdisp,ydisp,color;
  {
    plot(x+xdisp,y+ydisp,color);
    plot(x-xdisp,y+ydisp,color);
    plot(x+xdisp,y-ydisp,color);
    plot(x-xdisp,y-ydisp,color);
    plot(x+ydisp,y+xdisp,color);
    plot(x-ydisp,y+xdisp,color);
    plot(x+ydisp,y-xdisp,color);
    plot(x-ydisp,y-xdisp,color);
  }
/* test program */
main()
  {
    bitmap(16,2);
    rect(1,1,256,192,16);
    circle(100,100,25,16,FILL);
    circle(100,100,50,16,NOFILL);
    circle(128,96,96,16,NOFILL);
    circle(128,96,96,16,FILL);
  }
```

First of all, notice the line
#include "dsk1.bitrtn"

This is very important; this refers to a file of the bitmap routines supplied with the current version of the c99 compiler. If you do not have this file, I am certain our library can supply you with the latest version of c99, including this file.

Next, we define two constants, FILL and NOFILL. This is so that we can pass arguments of true and false for a fill value, allowing us to have filled and hollow circles.

Next, we define the function CIRCLE. The format includes x and y center coordinates, radius, color and fill value. All of these are defined as INTs. Notice that I define the parameters that are to be passed outside of the open bracket '{'. This is important. I made a lot of mistakes at first in C, forgetting that I had to put the function parameters between the function definition and the start of the function; contrast with Pascal, where the data types of parameters are passed in the function definition. Note also that this function returns no value, and hence is not defined as a data type.

Now, we find a declaration inside of the open bracket. This is for defining

temporary variables used only in the routine. The system does not actually reserve space for them; they are simply allocated stack room when it is necessary. Thus, C routines can be recursive, that is, they can call themselves. The stack is automatically moved down each time a function is called, and the old variables from the last routine are left under the top of the stack.

The variables we are using are xdisp, ydisp, radsquare, and ysquare. radsquare and ysquare are temporary variables that hold intermediate calculations, thus trimming the time needed in the inner loop(s). ydisp and xdisp are offsets in a square of width radius*2, centered at the given point. This way, we can simply manipulate the offset and pretend that we are plotting the circle around the origin.

However, here is where things get tricky. Notice that I set ydisp to radius and x to 0. This is because we can rely on starting with a point radius distance directly above the center. To give you the idea of the rest of the routine, we scan horizontally, increasing xdisp until the pythagorean theorem tells us we have left the circle. When we have left the circle, we do not plot a point, but rather move down one row (since the circle has no holes in it) plot that point, and continue from there. Perhaps a diagram would help.

```
  +----------+
  012v      /|
     345v  / |
        6/   |
         /r  |
       /  r  |
      /   r  |
     /    r  |
    /     r  |
   /      r  |
  c       r+
```

c is the center, r indicates reflections of the calculated points, and the 123 shows the order of scanning, while 'v' shows moving down a line. The /'s show an imaginary line that the scanned point is prevented from crossing. This is because we can easily calculate those points by reflection. We check this by looking for ydisp<xdisp, and stopping the routine when the line is crossed.

The filling is done by connecting points that are mirrored across the y axis. All of these are straight lines, so the use of a high speed vertical (or horizontal) line plotter could speed this routine up immensely when filling circles.

Notice that we just check for fill or nofill and then plot the points with no checking when going into the routine. This saves time, by saving calculation till the end of a loop, since they will probably require less iterations.

Notice also the symmetry mentioned above. A circle is radially symmetric, so on a discrete plane such as a computer screen, we can easily get 8 points of symmetry from each point, 4 by using negatives of the xdisp and ydisp values, and four more by using xdisp as a y value and ydisp as an x value.

Well, that is about it. This seems to have come out a bit more technical than I intended. Don't worry about how it works, just type it in as it is and, most of all, have fun!

Next: area flood fill. Maybe.

MEETING DATES FOR THIS YEAR ARE AS FOLLOWS:

SEPT 6	NOV 1 (TI FAIRE)
OCT 4	DEC 6

TI Extended BASIC Files

By Jay Giurleo

Files are very useful to the programmer in TI Extended BASIC. File commands are used to load, save, and change data stored on a disk. TI's manuals explains these commands, but not very well. I will try to explain them by using a simple step-by-step manner. To make things a little clearer for you, we will set up a program to show how files actually work. This program will enter a person's name and address and save it on disk. Before we do, though, there are a few things that you will need to know. Let's first set up our file. To do this, you use the OPEN command. It works something like this:

```
OPEN #n:"device",file attributes
```

In the statement above, the "n" stands for the file number that you will be using. You can use any number between 1 and 255 for n. We will use 1. You may only have one file under this number at one time. "Device" is where the data you are using will go. This may be any valid file name, such as DSK1.FILE, or CS1, or a device such as PIO, or RS232.BA 9600. If you select either CS1 or CS2, do not use a file name, instructions will be given on the screen for you to follow. In the examples below, we will be using the first disk drive, with the filename:"DSK1.ADDRESS" When you open your file, you should enter certain information that will determine its characteristics. These are the "file attributes" in the example above. You may enter 4 types of attributes. These are file organization, file type, open mode, and record type. You may use all of them, some of them or none of them. Each help determine what your file wil be set up like. Let's take each of these attributes and look at them carefully. First, there is "file organization". You can use one of two options here: SEQUENTIAL, and RELATIVE. SEQUENTIAL will store and read your data one record right after another. RELATIVE will allow you to read from or write to a file in any order. With RELATIVE files, you can jump to any part of the file and read or write, but with SEQUENTIAL, it is all in order. You can only write or read one after the other. If you do not specify either RELATIVE, or SEQUENTIAL, the default is SEQUENTIAL. For our program, we will be using RELATIVE. Next up is "file type". It may be DISPLAY, or INTERNAL. By using INTERNAL, data is stored in the computer's "natural" form, binary. INTERNAL will take up less space than DISPLAY, but you will not be able to read it. If you are planning to show your data on the screen, you should use DISPLAY. If you do not choose a file type, DISPLAY is used as the default. We shall use DISPLAY foa r our address program. You can use one of four options for "open mode". They are UPDATE, INPUT, OUTPUT, and APPEND. If you choose UPDATE, you can either read or write to your file. If you choose INPUT, you can only read from your file. If you only want to write to a file, choose OUTPUT. If you have already created a file, and wish to add to it, use APPEND. If you don't choose any of the above, UPDATE is the default. We will be using UPDATE for our file. "Record type" is how you want your data saved. You can use either VARIABLE or FIXED. When you save data to disk, records may be any length up to the length you specify with the FIXED or VARIABLE option. . Any that are shorter are made longer by adding spaces. Any that are longer are cut to the correct length. VARIABLE means that your data can be any length when you save it to disk. FIXED means that if your data is not

long enough, or longer than was specified, the computer will compensate by adding blank spaces or deleting characters. You may set how much of your data you want to save before it will be cut off by adding a number after "record type". This would look like VARIABLE 80 or FIXED 64. Please note that if you don't specify a number, the defaults are as follows:Disk drive=80,cassettes=64,80 for the RS232 interface, and 32 for the thermal printer. We shall use FIXED for program, with a length of 80 (VARIABLE 80). Note that when you are using RELATIVE files, it is necessary that you use a FIXED record type. This is so that if you decide to use the RESTORE command to jump to a certain record, the computer will know the exact location on the disk. OK, that's all that you need to know to OPEN a file. Let's look at our statement:

```
OPEN #1:"DSK1.ADDRESS",SEQUENTIAL, DISPLAY,UPDATE,VARIABLE 80
```

Notice that all the "file attributes" are the default values as described above. Therefore, we could simply use OPEN #1:"DSK1.ADDRESS" as our statement and arrive with the same result. Of course, just opening a file won't help you very much in writing a program, we need statements that will let us use this file we've created. The following are the most basic statements we can use:PRINT,INPUT, and LINPUT. You may use these commands just as you would usually, except you must add the file number that you are using after the statement(ie. PRINT #1,INPUT #1). You can use these statements as follows:

```
PRINT #1:"This is a test"
PRINT #9:TAB(20);"This is a test";
INPUT #1:A$
INPUT #7:A$,A,J,K$
LINPUT #1:C$
```

Well, now that you know how to use a file, there are other functions that are dedicated to file usage. The main ones are EOF, REC, RESTORE, and CLOSE. Before you go out and start programming large programs with files, you should become familiar with these. Let's take a look at them. The EOF function is used to test where your position in a file. It is used as follows: EOF(file number) or EOF(1), EOF(2) etc. When using this function, it is always assumed that you are going to be reading the next record in a file, even in RELATIVE type files. When using EOF, if a 1 is returned, there are more records to be read. If a 0 (zero) is returned, you are at the end of your file, and if a -1 is returned, there is no more space on the device you are using to store data. You can use the EOF function like this:

```
IF EOF(1)=0 THEN GOTO 570
PRINT EOF(9)
```

In the first example, if you checked file #1 with the EOF function, and a 0 was returned, the program would jump to line 570. In example two, the value for file #9 would be printed on the screen. This function is useful if you were reading in a large amount af data, and wanted to stop reading when you ran out. The REC command will return the number of the record that will be accessed next with a PRINT, INPUT or LINPUT. You should use the function as follows: REC(file number), or REC(1). Note that the records are numbered starting with 0, so if a value of 5 were returned, it would actually be the sixth record in your file. You can

use it like this:

```
PRINT REC(1)
```

If you had printed four records to your file, and you used PRINT REC(n), the number 3 would be returned(this would actually be record 4, because it starts with 0). The REC command will only work on RELATIVE files because of the

reason explained above in the Record type section. The RESTORE function is used to determine which record will be read or written next in your file. It is used as follows: RESTORE #file number(,REC record) or RESTORE #1, or RESTORE #1,REC 15. Note that if you do not specify a record number to read next, the default is the first record of your file. In example, if you had written the following records to your file:CAT, DOG, MOUSE, HORSE, and entered RESTORE #1,REC 2 , and INPUT A$, A$ would be equal to "DOG". Use the CLOSE command when you are through using your file. Use it as follows: CLOSE #file number(:DELETE), or CLOSE #1, or CLOSE #3:DELETE. Note that in the last example, if you had used CLOSE #3:DELETE, file #3 would be deleted, and you would not be able to access it again. When you are through with your file, be sure you use the CLOSE command, or your entire file may be lost. Now that you know how files work, we can proceed to work on our address program. Here's how we'll do it. First, we have to open our file. Use the OPEN command we described earlier.

```
100 OPEN #1:"DSK2.ADDRESS",RELATIVE,DISPLAY ,UPDATE,FIXED 80
```

Clear the screen, and display your choices.

```
110 CALL CLEAR
120 DISPLAY AT(1,1):"ADDRESS FILER"
130 DISPLAY AT(10,1):"Choose:"
140 DISPLAY AT(12,1):" 1 to enter data"
150 DISPLAY AT(14,1):" 2 to read data "
160 DISPLAY AT(16,1):" 3 to exit"
```

Here you type your choice, and the program will branch to the right section.

```
170 ACCEPT AT(20,15)SIZE(1)VALIDATE("123"):CH
180 IF CH=2 THEN 330
190 IF CH=3 THEN 440
```

In this section, you enter the name and addresses.

```
200 PRINT "Enter XXX as a name to quit."
210 LINPUT "Name:":NAME$
```

Check to see if the user wants to quit.

```
220 IF NAME$="XXX" THEN GOTO 110
230 LINPUT "Street:":STREET$
240 LINPUT "City:":CIT$
250 LINPUT "State:":STATE$
260 LINPUT "ZIP:":ZIP$
```


Print all the information the user entered to disk.

```
270 PRINT #1:NAME$
280 PRINT #1:STREET$
290 PRINT #1:CIT$
300 PRINT #1:STATE$
310 PRINT #1:ZIP$
```

Go back for more...

```
320 GOTO 180
```

Here is where the data gets recovered. First, we ask the user what record he wants to recover..

```
330 CALL CLEAR
340 INPUT "Which record to recover( Enter 999 to quit ":R
```

Check if the user wants to exit..

```
350 IF R=999 THEN 110
```

Next we use the RESTORE command to locate the position of the file on disk. Notice that we multiply what the user entered by 5. That is because we have entered 5 records(Name, Street, City, State, and Zip).

```
360 RESTORE #1,REC R*5
```

Here we use the EOF command to check and see if the record the user wants to see is larger than the number of records that are present in the file. If it is, jump back to get another record.

```
370 IF EOF(1)THEN PRINT "Sorry, can't access that.  " :: GOTO 340
```

If it isn't, input and print each record to the screen...

```
380 INPUT #1:NAME$ :: PRINT NAME$
390 INPUT #1:STREET$ :: PRINT STREET$
400 INPUT #1:CIT$ :: PRINT CIT$;" ";
410 INPUT #1:STATE$ :: PRINT STATE$
420 INPUT #1:ZIP$ :: PRINT ZIP$
```

And go back to ask for more.

```
430 GOTO 340
```

At this point, we end the session by closing the file, and returning to Extended BASIC.

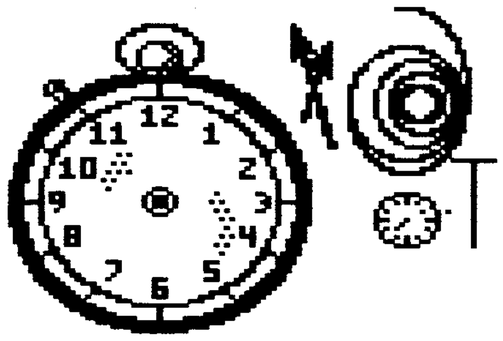
```
440 CLOSE #1
450 END
```

That's all there is to it. Try entering this program on your own and see how it works. As you can probably see, this program lacks many of the things that a very good address handler could use, but this is just the first step. Once you get familiar with files, try modifying this program. Some suggestions are to find a way to (a) Add data, (b) change data, (c)delete data. Good luck, and have fun!

Here's the entire program. It's in 28 columns, so it should look exactly like it does on the screen as it does here.

```
100 OPEN #1:"DSK2.ADDRESS",RELATIVE,DISPLAY ,UPDATE,FIXED
110 CALL CLEAR
120 DISPLAY AT(1,1):"ADDRESS FILER"
130 DISPLAY AT(10,1):"Choose :"
140 DISPLAY AT(12,1):" 1 to enter data"
150 DISPLAY AT(14,1):" 2 to read data "
160 DISPLAY AT(16,1):" 3 to exit"
170 ACCEPT AT(20,15)SIZE(1)VALIDATE("123"):CH
180 IF CH=2 THEN 330
190 IF CH=3 THEN 440
200 PRINT "Enter XXX as a name to quit."
210 LINPUT "Name:":NAME$
220 IF NAME$="XXX" THEN GOTO 110
230 LINPUT "Street:":STREET$
240 LINPUT "City:":CIT$
250 LINPUT "State:":STATE$
260 LINPUT "ZIP:":ZIP$
270 PRINT #1:NAME$
280 PRINT #1:STREET$
290 PRINT #1:CIT$
300 PRINT #1:STATE$
310 PRINT #1:ZIP$
320 GOTO 180
330 CALL CLEAR
340 INPUT "Which record to recover? Enter 999 to quit ":R
350 IF R=999 THEN 110
360 RESTORE #1,REC R*5
370 IF EOF(1)THEN PRINT "Sorry, can't access that.  " :: GOTO 340
380 INPUT #1:NAME$ :: PRINT NAME$
390 INPUT #1:STREET$ :: PRINT STREET$
400 INPUT #1:CIT$ :: PRINT CIT$;" ";
410 INPUT #1:STATE$ :: PRINT STATE$
420 INPUT #1:ZIP$ :: PRINT ZIP$
430 GOTO 340
440 CLOSE #1
450 END
```

Just an extra note here- Please copy this file all you want, but also be sure to give credit where credit is due. Thank you.



THE DISASSEMBLY

Dave Wakely

The auction; the picnic; the Faire; other THings:

DO I HEAR 20???: It was a pretty good meeting turnout for a nice day in June. It was also apparent that our continued hyping of the hardware and software auction successfully induced many of you to bring your checkbooks along. The group netted something over $750, and every item auctioned off was donated by members of the group. The proceedings were conducted by Sam ("Pat Sajak") Pincus, with his assistant Dave ("Vanna") Wakely. Our thanks to both the doners and the bidders for making our first auction such a success.

After the auction, those in attendance were treated to a demo of Myarc's GENEVE computer. This is, or could be (maybe, we hope) the apparent successor to the 99/4A. I first saw it running at the Consumer Electronics Show held the week before the June meeting at McCormick Place. The long talk I had with Lou Phillips formed the basis for my article on the computer elsewhere in this issue. The meeting demo was conducted by one of our group members who is a software developer/beta tester for Myarc. The demo itself was fine as far as it went -- some 80 column TI- Writer text and a demo similar to the "Lines" routine that comes with the Minimem -- but the point is that there isn't much else at this point. Not even BASIC has been completed. The promise of this machine (actually a PE Box card), if it can be purchased for $300, is great -- provided that the promised "95% TI compatibility" comes to pass. And what about IBM compatibility? From what Phillips told me, there is at least a chance that the upcoming 4th Chicago TI Faire could just provide a debut for this product. We will keep you posted.

THAT'S LOUNGING BY THE FIRESIDE, NOT THE FIRESIDE LOUNGE!: On a hot Sunday in July, at a time when the group is usually dormant, a little over 100 members gathered at Schiller Woods for our first picnic. There were no software or hardware demos, no library disks sold, no vendors in attendance, yet strangely enough, everyone had an enjoyable time. Lots of computer talk could be heard, and more than a few hot dogs were consumed (or was it the other way around?). One discovery was that group Pres. Butch Goldstein has tracked down a supply of TI modules dirt cheap (i.e. before TI could bury them) and purchased for the group a goodly number of boxes of assorted cartridges. Word has it that some of them, including documentation, will be available at the September meeting for as little as $1.00. These are new, unused and presumably unsoiled units.

WHAT, ALREADY?: Yup. Our fourth Chicago TI Faire is coming up on Nov. 1, 1986. You want to know why this was a good idea four years ago and

still is today? Check MICROpendium, check the Source or Compuserve, check with other TI user groups. EVERYONE is now holding TI Faires. If the TI world hasn't reached Faire saturation I know of no reason why this one won't be as good or bigger and better than the last three. Another reason the Faire will be successful is that it is being managed by Sandy Bartels, who did such a great job last year, and promoted by Mike Chappell, our PR man. Mike is the one responsible for our ads in MICROpendium and Computer Shopper, and they have brought in many new members. Somehow I got myself volunteered to once again line up speakers for the Faire. My problem with this is our past success. I will remind you that at our past Faires we have had the former head of TI's Home Computer Division, Don Bynum; Lou Phillips, the man bringing out the new computer; Craig Miller, whose software and Gram Kracker amazed everyone last year; etc. etc. In other words, what do we do for an encore? If there is an area we may have neglected, it might be software, and my thinking this year is to invite the "super programmers" to be our speakers, especially those who have contributed to the "Freeware/Fairware/Shareware" concept. I have several people in mind, but we can't invite everyone. I felt that last year we were on the verge of "overdoing" the number of speakers. I think it was the crashing waves of Fairegoers surging between the exhibit hall and speakers room that convinced me of that. I estimate that about four speakers is plenty, and will allow each enough time to demonstrate and elaborate. More details on names as I obtain them.

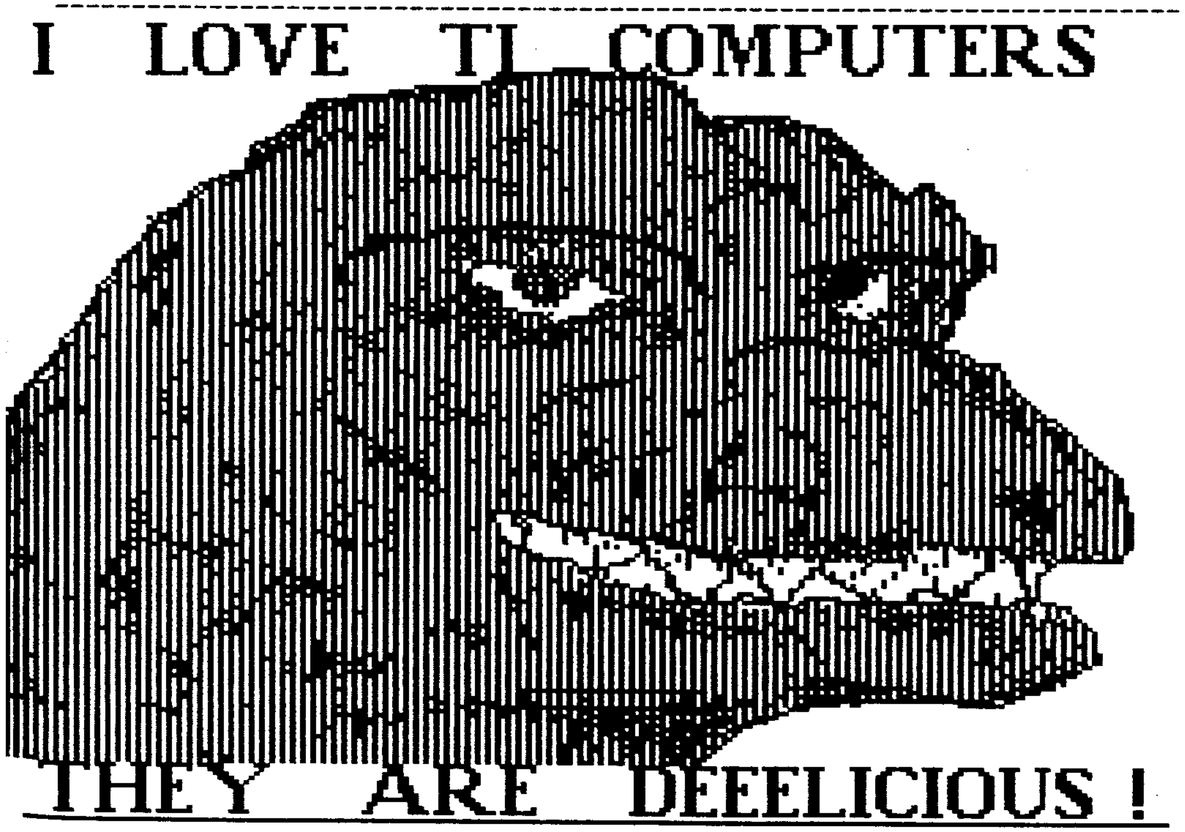
SubrouTInes: If you think you are serious about the TI-99/4A and you don't subscribe to either MICROpendium or Smart Programmer/Super 99 Monthly (and preferably both) you are kidding yourself, and no, a complete set of back issues of 99er doesn't count...If you have questions about "Super Cart" like, "What is it?" "What does it do?" "Why would I want one?", Hank Ellermann seems to know as much about this as anyone, and incidentally, have we done a meeting demo of this, or did I miss that one? Hank, can we talk??...Q: How excited did some people get at the June auction? A: So excited that one member was observed bidding against himself! Reminds me of a ventriloquist act I saw once...Rumor has it that this very issue of the ChiTImes that you are reading is the largest single issue we have ever produced. Congratulations Carole...What else is the group going to do this year? You tell us. For the September meeting it has been suggested that we have some time for technical/programming Q and A, and that we poll the membership to see what you would like to see this year. The library demos were very popular last year and will likely also continue...It could just be that our most pressing problem at this time is: What will we have Schmalgemeier doing this year to keep him out of trouble? Any suggestions will be greatly appreciated...Why is it that this group continues to function so well year after year? The people, that's why. When someone needs some time or a rest from their group duties, someone else seems to come along to fill in. A case in point is our new group Librarian Bob Demeter, who has been doing a terrific job for several months now. You will be seeing Bob at the meetings when we ask him to demo some of the library programs. Thanks for the help, Bob!...While the library has some great programs, and there is some terrific fairware stuff out there, and Hunter Electronics always has their bargains, what I am looking for is a program which can write newsletter columns by the editor's deadline and then upload such columns to the bulletin board. It could then inform me when it has done this. Such a program would necessarily make extensive use of A.I. since many have informed me that this column is obviously written using "Artificial Intelligence"...

TRADING TIMES

Robert Scott at 808 Huber Lane in Glenview is selling a full package that would enable someone to get up and running with an expansion system if they were now limited to a console only. He has a PEB, SS disk drive, 32K, Joy sticks, speech synthesizer, some cartridges and a tape recorder for sale. He is asking $400 or best offer. You can reach him at 312-729-2735

Another offer comes from Marcy Brun at 2949 N. Ashland in Chicago. She has a complete setup with all equipment-disk drive, printer, extra memory, tape player, etc. Since she no longer needs the system, but needs the money she is offering the entire package for $1,000 or best offer. Phone # is 312-348-0108. Don't let this bargin slip by.

And, there is one more late entry. R.J. Scweikert at 1101 W. Cermak Rd, Broadview, Il 60153, has 3 keyboards, 1 expansion box with RS232, disk drive, 32K memory, one external drive, a Navaronne Cartridge Expander, a Volksmodem, a printer cable, Multiplan, TI Writer, XBasic, and probably all TI cartridges ever realeasd plus books and more. He is offering this complete TI package only as a package for $650. He would appreciate phone calls at 312-344-8240 during the day only.



LETTERFORM
By Ollie Herbert

LETTERFORM tutorial for your word processor: BA-WRITER, FUNLWRITER, TK-WRITER (each is fairware), or TI-WRITER. I Use it as a start for the letters that I write as it saves me the setup time.

To create a LETTERFORM file, load the editor and <ENTER> the following:

```
0001 .LM 36;RM 72;FI;PL 58;HE
0002 .SP 4
0003 You R.^Name
0004 P.O.^Box 578341
0005 Chicago, IL^ 60657
0006
0007 .CO Tel # and .SP Optional
0008 DATEXX, 1986
0009 .SP 2;LM 8
0010 T.O.^NAME
0011 P.O.^BOX ###
0012 CITYXX, STATE^ ZIP##
0013 .SP 2
0014 GREETING,
0015 .SP 2;IN +5
0016 .HE 30 ^'sLastName^ Page %
0017 .CO START HERE
0018
     (19 to 30 are also blank)
0031 .CO LAST LINE
0032 .SP 2;LM 36
0033 SALUTATION,
0034 .SP 4
0035 You R.^Name
```

Function 9, I <ENTER> to get into tab settings. Function D over to column 33, R <ENTER> to set the right screen margin. Function 9, SF <ENTER>, DSK1.LETTERFORM <ENTER> to save the file that you just created as LETTERFORM.

It would be a good idea to use the formatter to make a printout of LETTERFORM at this point and make any adjustments that are necessary before you use it to write your letters. You may prefer a different arrangement, different margins, or need to insert some printer commands. You might also like to put your favorite greeting and salutation in the master.

To use the LETTERFORM file, load the editor, LF <ENTER>, DSK1.LETTERFORM <ENTER>. After the file finishes loading, edit lines 8, 10-12, 14 & 33 to reflect the data for your letter. Function 9, SF <ENTER>, DSK1.filenamexx <ENTER> using a filename of your choice as your first save. For my filenames, I use the first four letters of the addressee's last name followed by the current 6-digit date.

Start your letter by overwriting line 17. Use insert (function 2 or function 8) periodically to avoid overwriting the original line 31 which is only a flag to keep you from writing into the letter's ending. It is a good idea to function 9, SF <ENTER> (the filenamexx is retained) periodically in order to keep a fresh version of your file saved on disk. After the save, you are returned to the point where you were before the save.

When finished writing your letter, function 3 (delete) any remaining blank lines between the end of your letter and all the way down to & including the original line 31. That line won't print but delete it anyway. Function 9, SF <ENTER> to save the file. Then function 9 again, Q <ENTER> to quit and E <ENTER> to exit the editor.

You are now ready to print your letter using the formatter.

Ollie Hebert Rt. 4, Box 23 Brewton, AL 36426

BE A WINNER: JOIN THE CHICAGO-AREA TI-99/4A USERS' GROUP NOW!

The Chicago-Area TI-99/4A Users' Group is now offering a special package deal for new members who are unable to regularly attend meetings. For the initial fee of $18.00, you will benefit from the following services:

SAMPLE DISK OR CASSETTE:
You will receive a double-sided (FLIPPY) single-density diskette or a tape cassette which contains a sampling of the software available in our groups program library. Please specify either disk or cassette when applying for membership.

LIBRARY:
The club maintains a library of programs (business, education, games, etc.) which are available to all members for a minimal charge. You will also receive our catalogue, without cost, so that you may order programs through the mail.

NEWSLETTER:
Members receive ten monthly editions of the club newsletter, The Chicago TImes. A larger Super Summer Issue is published for the summer months. The newsletter is really a magazine in size and form with an average length of 30 pages per issue. It includes articles, reviews, ads, tutorials, programs, a question and answer column, and more. Some back issues are still available.

BULLETIN BOARD SYSTEM:
The club maintains the very first TI-99/4A computer bulletin bulletin board system. Our board is operational twenty-four hours a day and it features the group newsletter, software reviews, messages, graphics, music, "swap & sell" notices, meeting information, and more. As a non-attending member, you will receive a free password which gives you lifetime access to the private sections of the board, which include program uploading/downloading, private electronic mail, and more.

MEMBERSHIP:
New members are most welcome and are usually swamped with offers of assistance and advice from fellow members. The group has been in existence for six years, has over 600 active members, and is growing larger every year. If you do not live in the Chicago area and are unable to attend the meetings, you will receive the newsletter in the mail. You will also receive any information on special hardware/software discounts that the group receives.

THE TI-FAIRE:
The Chicago TI-Faire, held every year at Triton Junior College, is the biggest all TI gathering in the United States. The Faire gives our group contacts with software and hardware dealers which enables us to obtain first hand information that is usually unavailable from other sources. As a member of our group, new product information and industry news affecting you and your computer will be made available to you.

SEND YOUR APPLICATION TODAY:
Become a new member in one of the largest and best known computer clubs in the country devoted exclusively to the TI-99/4A. PLEASE FILL IN THE AND MAIL THE FORM BELOW TODAY!!!

CHICAGO TI-99/4A USERS' GROUP APPLICATION FOR NON-ATTENDING MEMBERSHIP

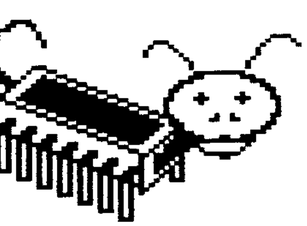
$$$

Date_____Phone# (_____)_____ Membership: $21/1st Year-$15/2nd-SEND PAYMENT TO:

Name_____ Chicago-Area TI-99/4A Users' Group, Inc.

Address _____ Don Jones (Membership Chairman)-Dept. 88

City, State & Zip _____ P.O. Box 578341 Chicago, Illinois 60657



RAM BUGS

Texincia Lubbock

What a wonderful summer! I hope it has been as good for everyone else! Aside from the time I spent in town for the Group Picnic, I wasn't around too much as I have devoted much of this summer to traveling around the country on my roller skates. Getting up the mountains was a bit rough, but from there it was all downhill.

Many thanks to *AL STUMP* for saving the day at the June Meeting. Without *AL'S* assistance, the new *GENEVE* would have remained a myth in our minds. Thanks also, to *TODD KAPLAN* for his demonstration of the new machine. *MYARC, the LITTLE COMPANY THAT COULD*, FINALLY! got their act together and completed a working prototype of the long promised successor to the *99/4A* - now lets see if it ever appears at the distributors...

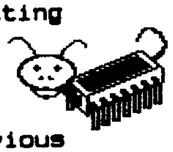
Does anyone know if *JACK VELEN* has ever attended an AUCTION before? Seriously, *JACK*, didn't your *MOTHER* ever explain that you aren't supposed to *bid against yourself* at an auction? The whole idea is to acquire the item being offered at the lowest price, not to run the price up until you're broke! *COMPLAINT DEPARTMENT, MISS LUBBOCK AT THE TYPEWRITER...* I was a little disappointed with the turn out at our first picnic. Only about 50 people were on hand for this mid-summer event although there were enough kids present to keep *GRANT SCHMALGAMIER* from driving the adults out of their minds. There were hundreds of *TI CARTRIDGES* available for only $1.00 each, and even *MIKE CHAPPELL*, squired by his crutches, and attended by a bale of *USER'S GROUP T-SHIRTS* managed to drop in.

MIKE POLONSKY provided some of the afternoon's entertainment with his overgrown scooter. Speaking of the Picnic, how come I was the only adult, besides *JOHN BEHNKE*, who wanted to participate in the baseball game? Doesn't anyone else like to do anything besides "talk TI" and eat hot dogs? Speaking of dogs, has anyone seen *SAM PINCUS* or was he afraid to show his face because he couldn't get a *DUNK TANK? (HERE SAM!, HERE SAM! Come on boy, want a hot dog!?!)*

In case you haven't already noticed, there are quite a few nice changes

to the format of this issue. *BUZZ KRANTZ* has been working night and day along with *CAROLE* to improve this newsletter and make it the best in the country! Watch for even more improvements with the September issue. I wonder if *PAM* and *BUTCH* will keep this from getting out of hand?

I understand *RICH KLEIN* will be offering classes in *IACOVELLISH* at *TRITON COLLEGE*; this semester. If anyone has difficulty communicating with *NICK*, I strongly urge them to make time this fall to enroll.



I'm afraid I will have to retract what I said about GENIE in a previous issue. It seems they have cleaned up their act a bit and several former *COMPUSERVE* members now tell me there is an enjoyable *TI SECTION* forming. The cost is lower, too, $5.00/hour for both 300 and 1200 baud (2400 baud is available for a slightly higher price), so check it out. To subscribe set your modem for HALF-DUPLEX, 300 or 1200 baud and call: 1-800-638-8369. When connected, enter "HHH". At the "U#" prompt, enter "XJM11946,GENIE" then press RETURN. Be sure to have your VISA or MASTERCARD handy so you can set up your personal *GENIE* account.

Here's a little programming dirt I learned from a friend. It seems that sometimes when disketts start giving you trouble and "losing" data, all they really need is to be reformatted. Remember, when you delete a file from a diskette, you are only deleting the directory entry, the information stays on the disk until it is overwritten by another program or file. This sometimes confuses the computer much the same way a lot of traffic on the expressway confuses me during rush hour. Reformatting will allow diskettes that you and I would have previously thrown away to sometime be used again.

I guess this must be the month for competition, *BUTCH* said something in his article (I marvel over the fact that man can actuallu write) about all the *TRIVIA TALK* on the *CHICAGO TI USER'S GROUP BULLETIN BOARD (312-966-2342)*, and is thinking of turning this into a contest, the SEPTEMBER ISSUE OF *COMPUTER SHOPPER* is running a *TI PROGRAMMING CONTEST* with several categories and lots of neat prizes, and now I have decided to introduce the *ULTIMATE CONTEST*. Many of you have speculated as to who I really am. Now you have the opportunity to *DRAW TEXINCIA!*.

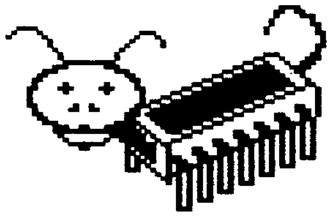
The *DRAW TEXINCIA CONTEST* will work like this:

1. Enter EARLY and OFTEN.

2. All entries must be received by the NEWSLETTER EDITOR (that's *CAROLE*), no later than NOVEMBER 15, 1986.

3. All entries must be COMPUTER GENERATED GRAPHICS and capable of running on a TI 99/4A. Please state the FORMAT on the disk when submitted: IE: BASIC, EXTENDED BASIC, TI-ARTIST, GRAPHX, ETC.

4. All graphics must be "G" RATED - that is suitable



for viewing by any age group.

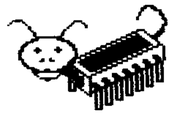
5. Final entry size when printed must not exceed 8 1/2 by 11 inches.

6. First, Second, and Third place winners will be chosen - prizes will be determined according to the winner's personality based solely on the decision of an independent panel of PSYCHOLOGISTS.

7. Winners will be determined by IMPRESSIONISTIC ORIGINALITY and not solely by ARTISTIC TALENT.

8. Winning entries will be announced and appear in the JANUARY, 1987 issue of the CHICAGO TIMES.
9. GOOD LUCK.

I understand the *SEPTEMBER MEETING* will consist of a QUESTION and ANSWER SESSION, SUPERCART DEMO, and the *RLE GRAPHICS PROGRAM DEMO*. If we run short of material, I promise to bring my *SLIDES OF MY SUMMER VACATION* for all to see. You meet the most interesting people when you skate from coast to coast. See you at the meeting... XXXX



ENTER

EARLY

AND

OFTEN

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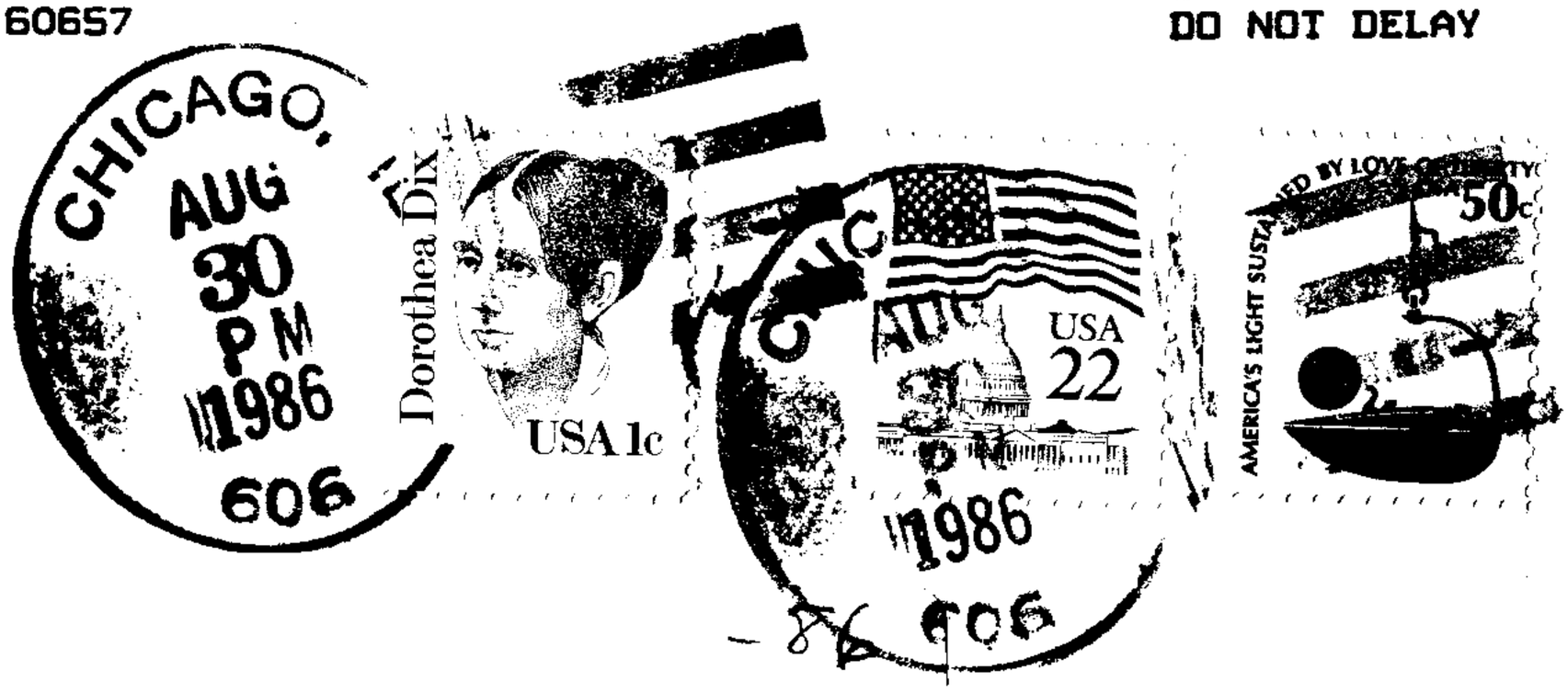

REMARKS

Carole Goldstein

Well, here it is; the issue you've been waiting for all year. Thanks to all those who have contributed to make this issue what it is. Everyone's help is so greatly appreciated. I don't want to name names because I'm afraid I might leave someone out accidentally. But I want to acknowledge everyone who sent articles, letters, pictures etc. Everyone who reads these pages appreciates your efforts

Special thanks to Ollie Herbert from Brewton Alabama who contributed 60 pages worth of material, some of which I was able to use to fortify this newsletter and much of which you will see in future issues.

Special thanks also go out this month to two people who helped make this issue the best yet. Thanks to Buzz Krantz for all the artwork and to Pam Krantz for proofreading the newsletter. These are two special people who took time out from getting ready to move to a new house, to help make this issue extra special. Buzz is really getting prolific with graphics and its great to have him contributing his talent to this newsletter.

One more thought I wanted to leave you with. If you disagree with anything I have published in this issue just remember the fact that:
^AN EDITOR IS ALWAYS WRITE!